GCSS-MC Overview

PM LSS Briefing

6 June 2002

Purpose

- Provide information overview for GCSS-MC
  - Background and Requirements
  - ILC
    - Operational Architecture
    - Business Process Improvements
    - Metrics
  - Architecture and Services
  - Portfolio Management
    - Capabilities
    - Systems
    - Mapping
  - Acquisition Strategy
  - Portfolio Management

POINTS OF CONTACT

- Web site: HTTP://WWW.GCSS-MC.INFO
- GCSS-MC Management Team
  - Sonia Kitchen, kitchensl@mcsc.usmc.mil, 703-784-0868 [Project Officer]
  - Ron Eckert, eckertr@mcsc.usmc.mil, 703-784-0869
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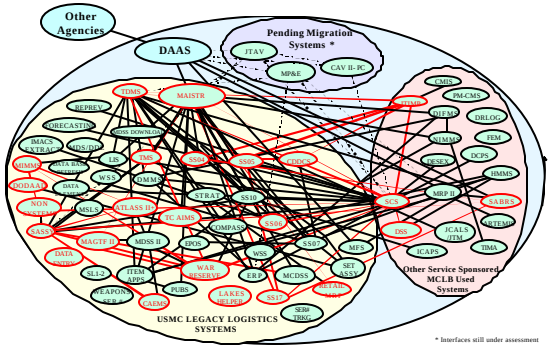
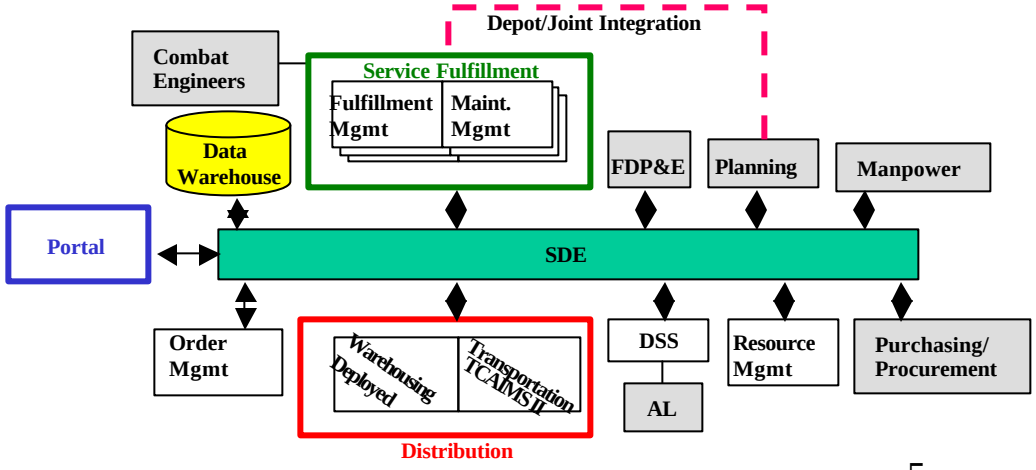
OVERVIEW AND REQUIREMENTS

TRANSITION TO FUNCTIONAL ARCHITECTURE

- Defines “Future-State” Logistics Process and Information Requirements Across the Enterprise
- Supports New Business Case for Modern Era Warfighter
- Provides Cross-Functional End-to-End View for Logistics Information Required by Operating Forces
- Baseline for Evaluating COTS/GOTS Capabilities to Support New Business Environment





Focus is COTS Environment; Capability Specific

MARINE CORPS STRATEGY AT THE START

- Used programs of record as a foundation for GCSS MC
- Developed strong alliance with Functional Advocate
- Dedicated resources plan to the road ahead
- Organized and chartered the GCSS MC Management Team (GMT)
- Energized POM 04 planning to market program
- Set the plans, organized the programs and aligned industry partners to deliver GCSS MC

GCSS-MC OBJECTIVES

- Deliver a common network, information centric portfolio of logistics systems
- Administer a portfolio of systems concept; reduce the number of enterprise information systems
- Design and deploy a single point of entry for products and services requests
- Use web technology for end-to-end visibility
- Provide interoperability with vertical and horizontal connectivity across the spectrum of logistics systems
- Deploy capabilities for operators, planners and warfighters to gain *visibility into* and *control of* logistics pipeline

REAL PROGRESS TO DATE

- Formed Resilient Partnership with Functional Advocate regarding GCSS MC Implementation
- Organized and Chartered GCSS MC Management Team (GMT) to Plan and Integrate GCSS MC
- Organized Portfolio Management Board (PMB)
- Established the Systems Realignment and Categorization (SRAC) Process
- Funded the Shared Data Environment (SDE) Effort
- Partnered with the ILC to Complete the Operational Architecture (OA)

REAL PROGRESS TO DATE

- Developed a Communications Plan to Educate Enterprise Decision Makers, Warfighters, Planners and Operators
  - Deployed Joint Web site (1300 hits weekly)
- Concluded Strategic Alliance with ORACLE for Enterprise License (database servers)
  - Resulted in the availability of Warfighter Portal and necessary technical support for integrating middleware solution
- Selected Gartner Group to Validate COTS package selection, Manage Risk and Quantify Investment Decisions
- Developed Versatile and Defendable POM 04 Submission for GCSS MC (Advocates #1 Priority)

REAL PROGRESS TO DATE

- Deployed Small Scale Models at II MEF
- Organized Strategies, Resources and Enterprise Support for a Viable Acquisition Program FY04
- Developed Process to Accelerate Integration Activities using Experienced Industry Partners

ALL ACTIVITIES ACCOMPLISHED IN 18 MONTHS USING 4% of AVAILABLE FY 02 BUDGETS

END OF THE BEGINNING

- Organized an aggressive and comprehensive program to review GCSS MC
- Team members available to provide additional information or answer questions
- Ms. Sonia Kitchen is the POC for additional information

GCSS MC is the way the Marine Corps will do business and use information in the future

GCSS-MC OBJECTIVES

- Provide the **Joint Warfighter** with a fused and integrated near real-time picture of the battlespace across combat support and combat service support functional areas
- Provide **full spectrum logistics information** system capabilities for service component commanders/staff, and sustaining base to include Defense Agencies and National Command Authority (NCA)
- Transfer **leading edge technologies** to support emerging doctrine and warfighting strategies designed for next-century conflicts (Joint Vision 2020)

GCSS-MC GOALS

- **Single Point of Entry** to Request Products and Services across the Logistics Enterprise
- Access a **Shared Data Environment** for Actionable and Archival Logistics Information
- Satisfy **CINC-129** Requirements for Warfighter Information
- Implementation of the ILC (IT Enablers)
- Provide a **Seamless End-to-End** Process for Managing Logistics Information
- To design and manage a Portfolio of Logistics Systems

GCSS-MC Description

GCSS-MC is the physical implementation of the enterprise information technology architecture designed to support both improved and enhanced MAGTF Combat Service Support functions and MAGTF Commander and Commander in Chief (CINC)/Joint Task Force (JTF) combat support information requirements. As such, GCSS-MC is not a single system but a portfolio of information technology capabilities tied to discrete performance measures that support required combat service support mission objectives.

GCSS-MC consists of four key functional components. These components are:

(1) **Data Capture** – The ability to accurately, efficiently, and quickly capture information and insert it into the appropriate information system.

(2) **Data Storage** – The ability to provide, via a Shared Data Environment (SDE), a common source of information shared by all applications. The SDE is an enterprise platform where business logic and data are separated that provides a single interface for authorized systems and applications to all USMC Combat Service Support information.

(3) **Data Manipulation** – The use of common commercial transaction and communication standards that allow applications to interact with one another.

(4) **Decision Support Tools** – Applications used by the Commander to support the decision making process. These tools include the applications for situation awareness, analysis, planning, and execution of combat service support operations.

Approach

- Overall a “bottoms up” approach using programs of record, task organized and not a system of systems (not a comprehensive package)
- Deputy Commandant Installations and Logistics is the Advocate for the GCSS-MC Portfolio
- Portfolio Management is used to manage the Logistics Information Technology Enterprise.
- Capability is provided by the integration of SRAC and portfolio selected legacy systems and procurement of COTS/GOTS solutions into the GCSS-MC Infrastructure
  - COTS/GOTS includes ERP packages and commercial development tools

Requirements Documents

- GCSS-MC ORD (1999)(In revision 2001)
- ILC Business Case Study (1999)
- CSSE-SE ORD (1999)
- GCSS Capstone Requirements Document (2000)
- GCSS MNS (1997)
- Autonomic Logistics O&O (2001)
- LOG C2 UNS (2001)
- Warfighter's Portal UNS (2001)
- Marine Corps Logistics Campaign Plan (2001)
- ILC Operational Architecture (2001-2002)
- ILC Technical Assessment (2002)
- Acquisition Strategy (in development)

WARFIGHTER REQUIREMENTS:
MAPPING TO THE GCSS CRD

- Direct flow-down of applicable (Service) Capstone Requirements Document requirements
  - Key Performance Parameters
  - General Performance Characteristics
  - Information Exchange Requirements

WARFIGHTER REQUIREMENTS:
MAPPING TO THE CINC 129 REQTS

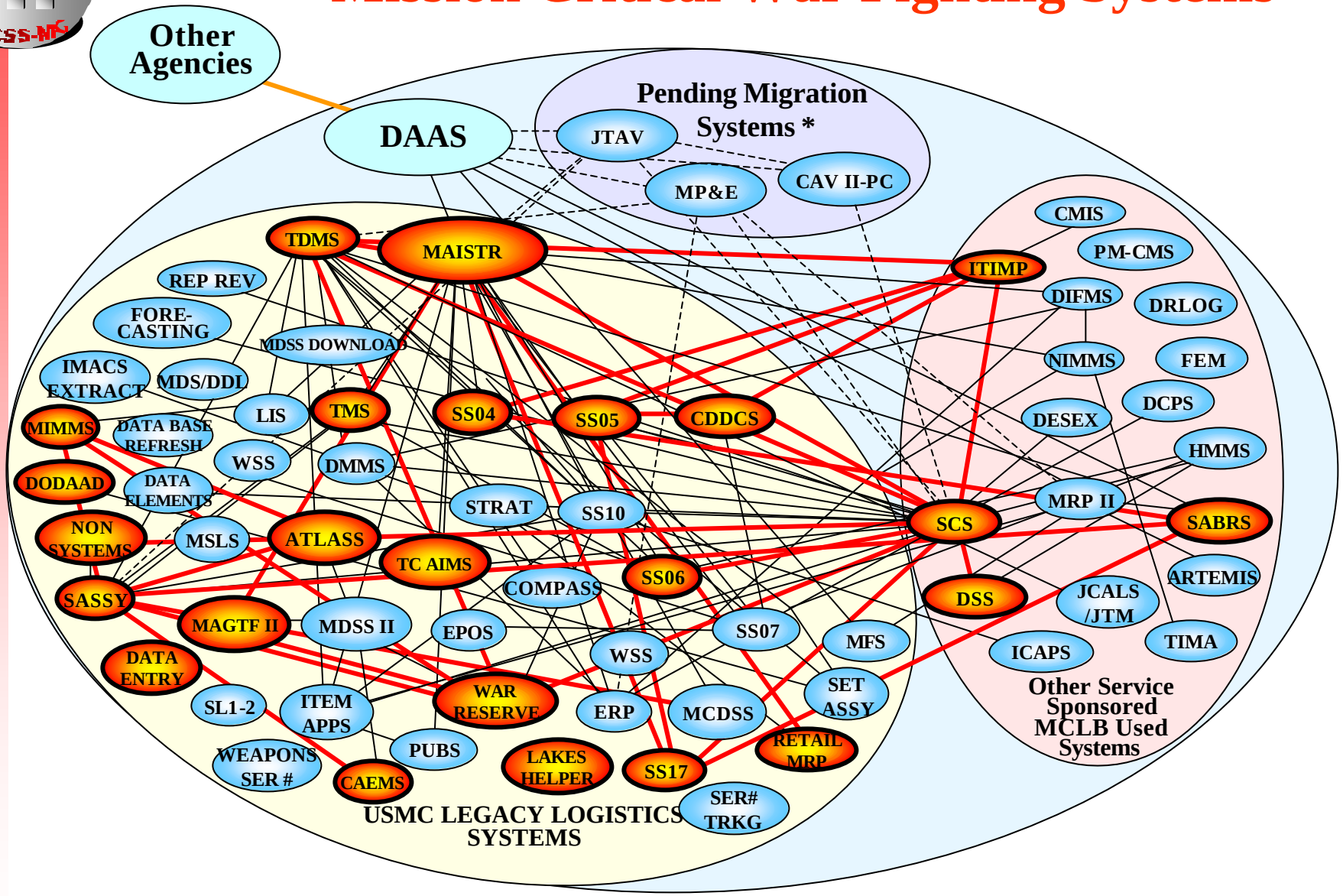
- All CINC 57 requirements/sub requirements mapped to current USMC systems
- Formed core GCSS-MC portfolio
- Used as basis for analysis to :
  - Keep system
  - Re-engineer system
  - Replace system
- Ties into SRAC effort

WARFIGHTER REQUIREMENTS:
GAP CLOSURE STRATEGY

- Closing Gaps via COTS Acquisition Strategy
- Forms requirements for new initiatives:
  - Combat Service Engineering
  - Warfighter Portal
  - Autonomic Logistics
  - Decision Support Tools

ILC Operational Architecture, Business Process Improvements and Metrics

Mission Critical War Fighting Systems



* Interfaces still under assessment

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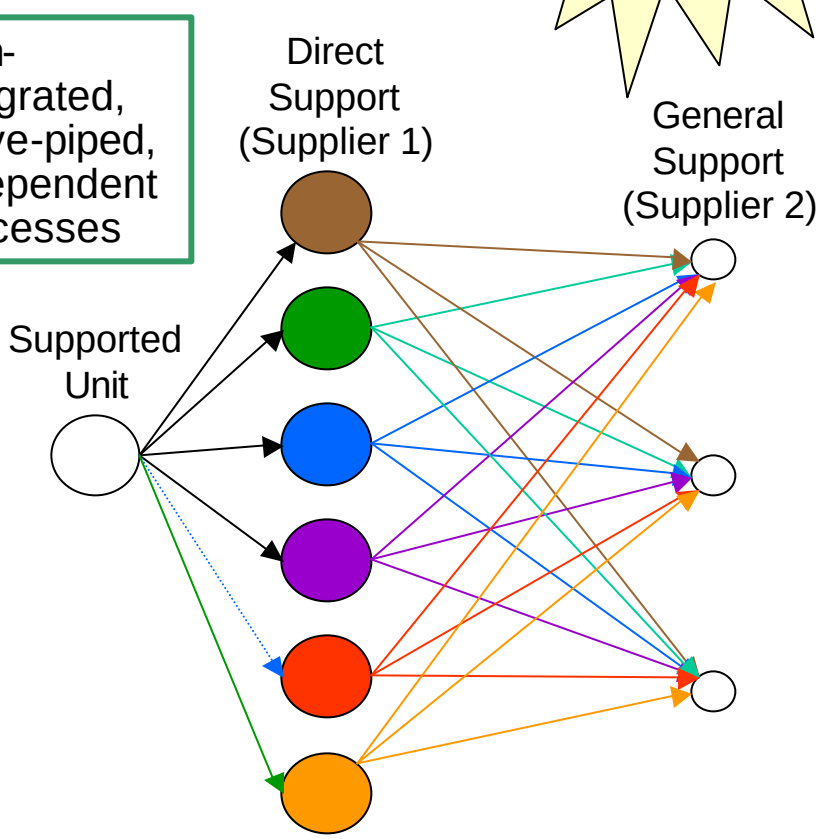
CURRENT STATE

Garrison

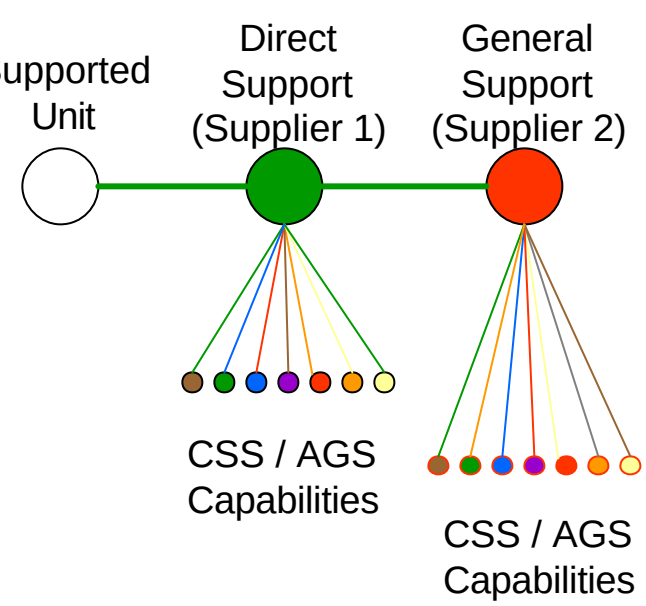
Multiple complex processes

Non-integrated, stove-piped, independent processes



Deployed

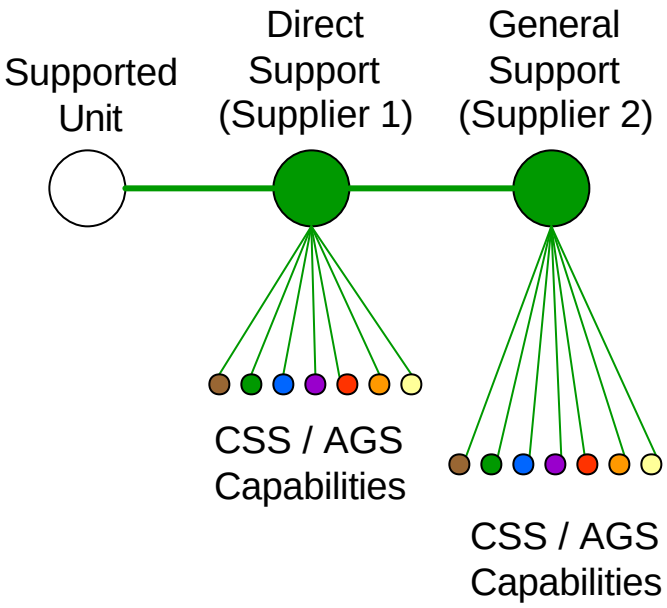
Single complex process



FUTURE STATE

Single process for garrison and deployed operations

Integrated cross-functional end-to-end process



Operational Architecture Definition

- A description of tasks, activities, operational elements, and information flows required to accomplish or support a military operation [*C4ISR Architecture Framework Definition*]

- Intended to be link between functional community and systems engineers

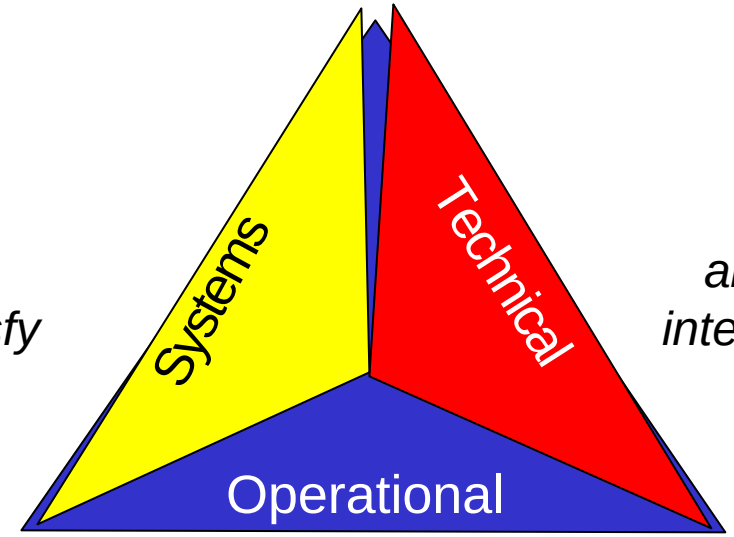
- Primary Purpose:
  - Define “to-be” business processes
  - Define information exchange requirements
  - Define interoperability requirements (inputs/outputs)

DoD's EAP Equivalent:

DoD Information Architecture Framework

Systems Architecture

"A graphical and textual description of systems and interconnections used to satisfy operational needs."



Technical Architecture

"The rules governing the arrangement, interaction and interdependence of system parts or elements."

Operational Architecture

"A description of the tasks and activities, operational nodes or elements, and information exchange requirements between nodes."

Why Complete an OA?

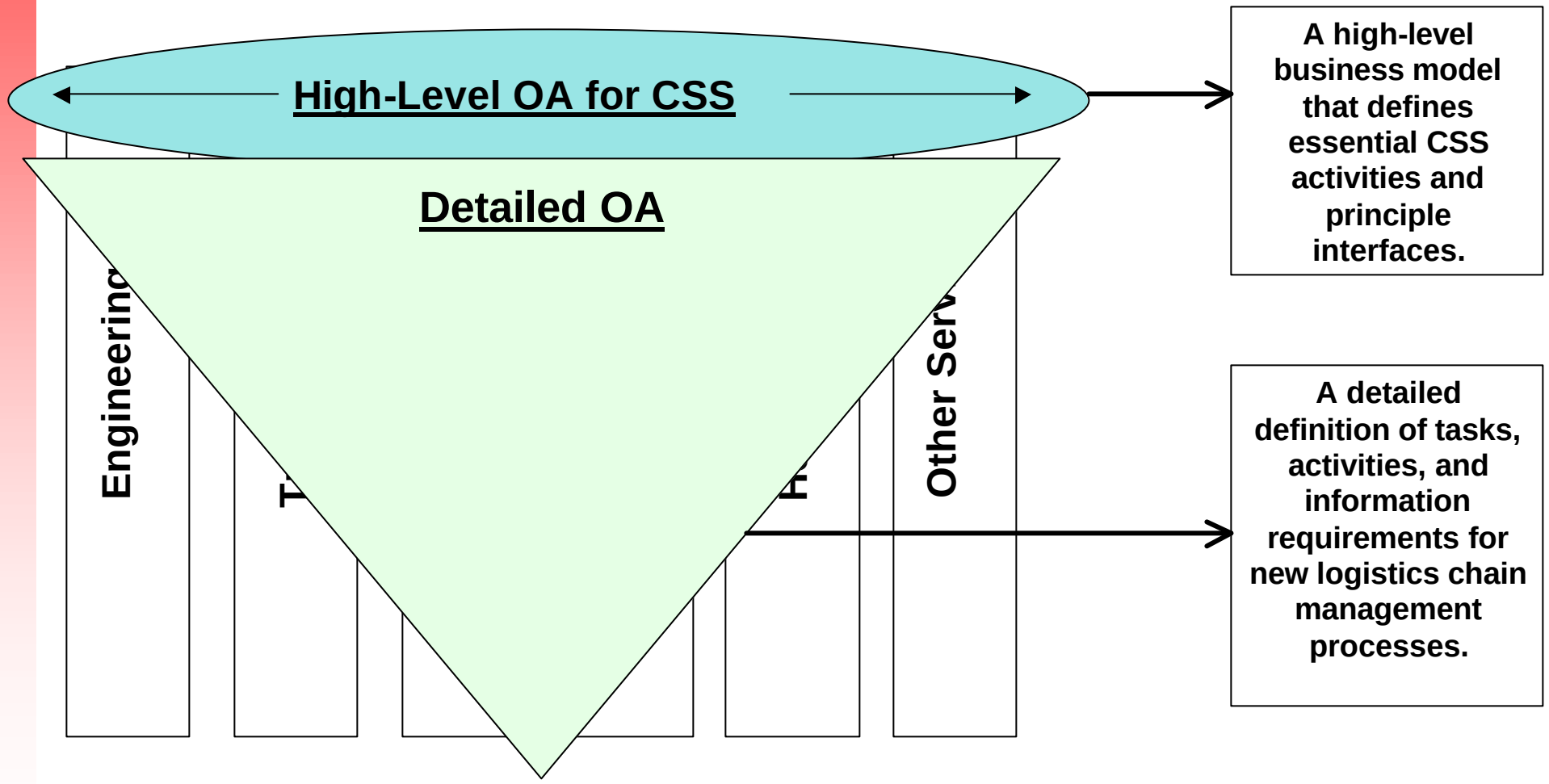
Before investing a significant amount of money in information technology…

KNOW YOUR BUSINESS!

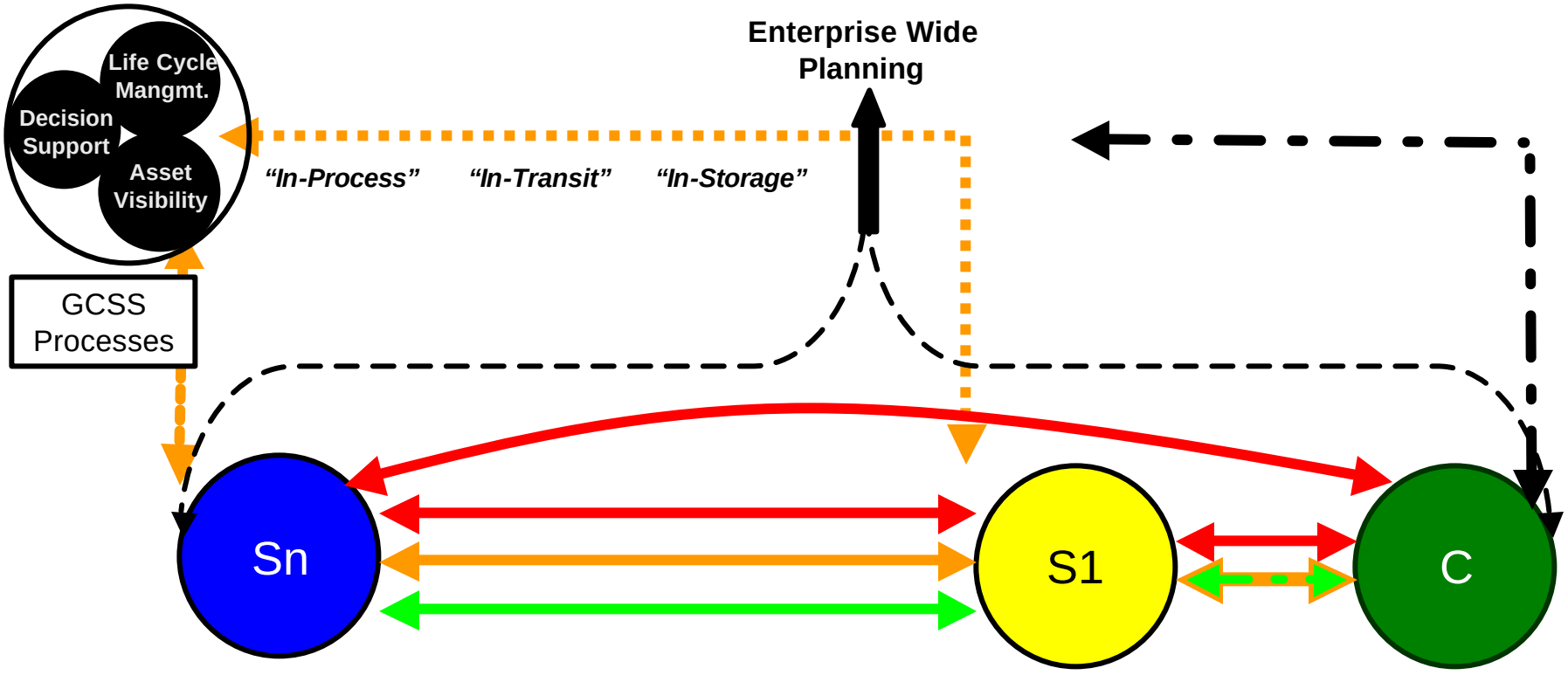
1. **What your organization does**
2. **How it does it**
3. **What information it needs to do it**

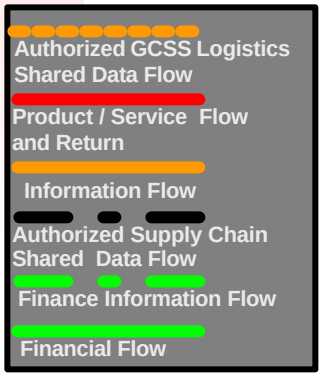
- Steven Spewak, *Enterprise Architecture Planning*

OA Scope


High-Level OA for CSS
Detailed OA
Engineering
Other Serv
A high-level business model that defines essential CSS activities and principle interfaces.
A detailed definition of tasks, activities, and information requirements for new logistics chain management processes.

High-Level Concept Diagram



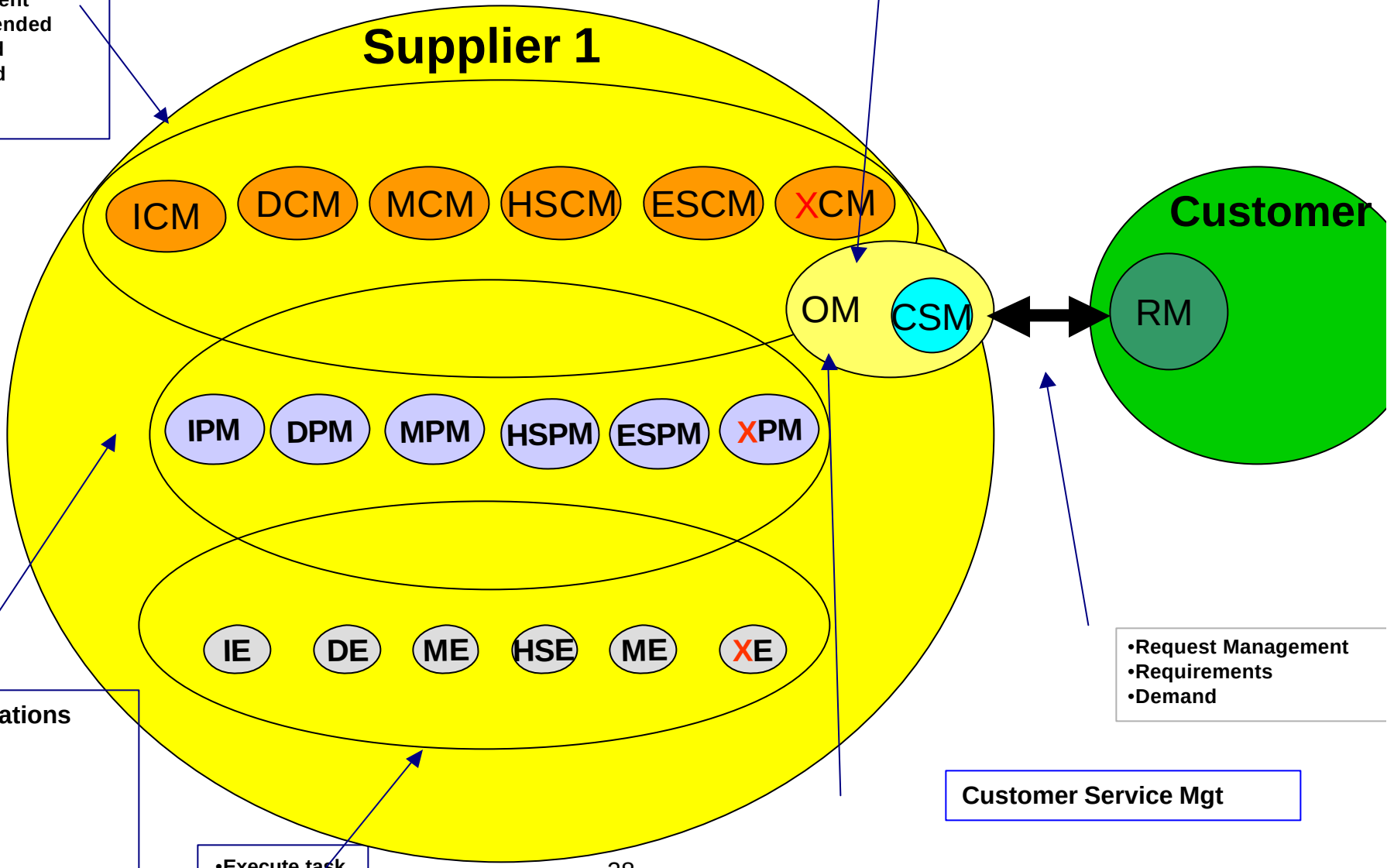


End-to-end "logistics chain" processes focused on fulfilling customer demands for products and services, incorporating original ILC business process changes, enterprise-wide logistics planning, and a shared data environment.

Detailed Roles (Supplier 1 & Customer)

apacity Management
- apacity Available
- apacity Planned
- apacity Tasked
- apacity Management
- apacity Recommended
- apacity Optimized
- apacity Prioritized
- rder Management

Order Management
- •Coordinate WHAT
- •Task WHAT



roduction/Operations anagement
- lan HOW
- oordinate HOW
- ask HOW
- ontrol HOW

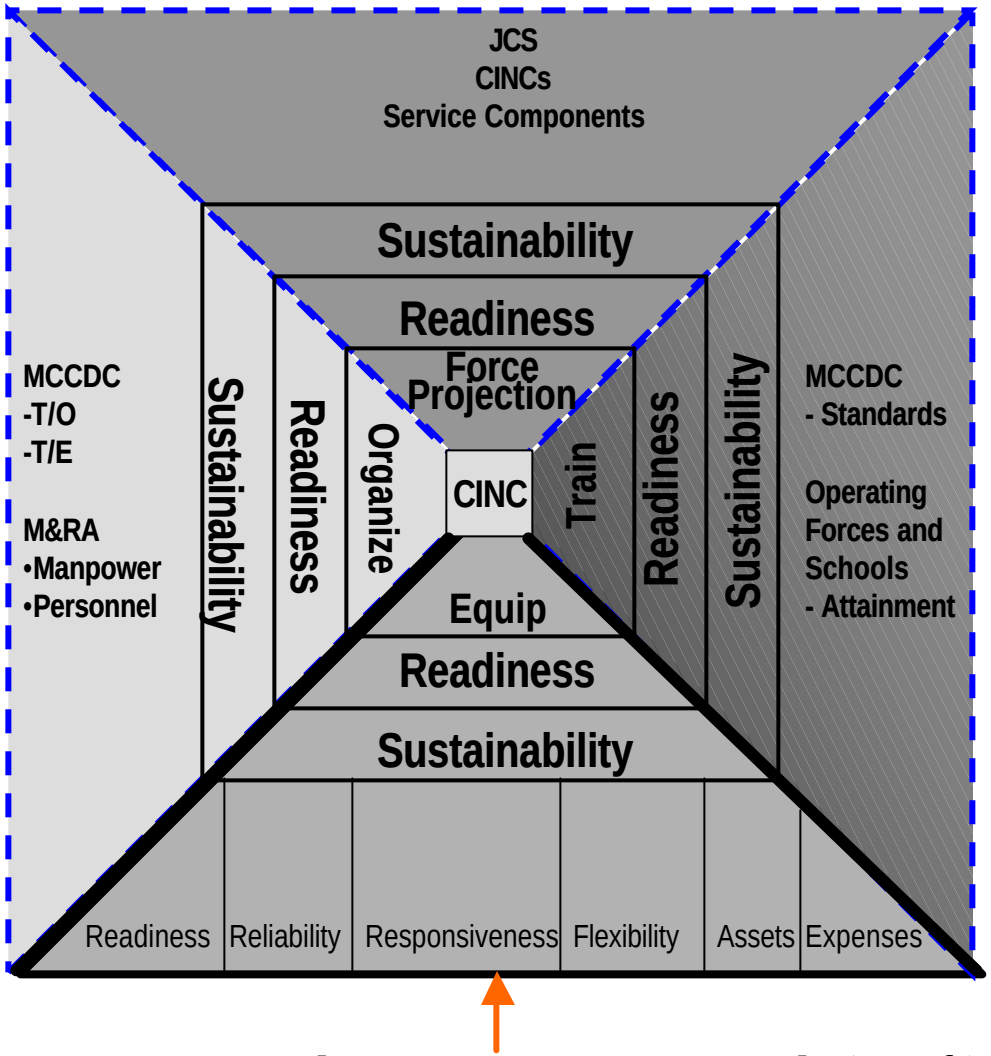
- •Request Management
- •Requirements
- •Demand

Customer Service Mgt

- •Execute task to fulfillment

STRATEGIC METRIC FRAMEWORK

CINC — Is the ultimate Customer



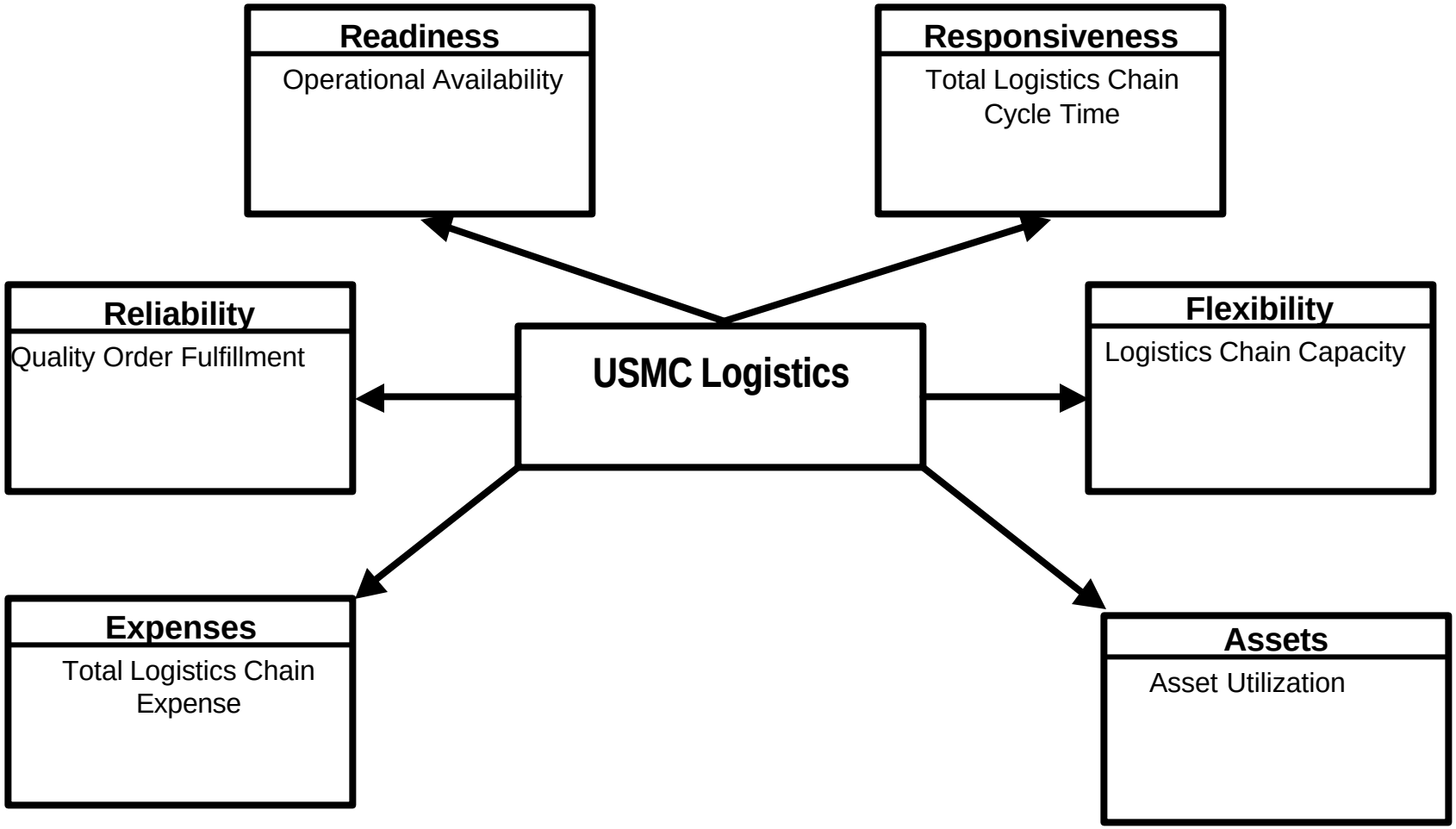
Sphere of Control

Sphere of Influence

Logistics Chain Metric Framework (Draft)

Task 4 – Operational Architecture

Proposed USMC Balanced Scorecard (Draft)



Attribute: Reliability (Quality)
Level 1 Metric: Quality Order Fulfillment

Level 2

Level 3

Order Fulfillment Performance from Supplier (Inbound)

- Inbound orders delivered complete
- Inbound orders delivered to agreed upon commit date (TDD Part A)
- Inbound orders with complete and accurate documentation
- Inbound orders in perfect condition
- Inbound orders delivered to the right place
- Accurate invoices for inbound orders
- Items received without quantity verification
- Items received without quality

Order Fulfillment Performance to Customer Order (Outbound)

- Outbound orders delivered complete
- Outbound orders delivered on-time to agreed upon commit date (TDD Part B)
- Outbound orders with complete and accurate documentation
- Outbound orders in perfect condition
- Outbound orders delivered to the right place
- Accurate invoices for outbound orders

HOW WE COMPARE TO BEST-IN-CLASS

Category	USMC	Industry
Inventory Turns	Months/Years	Days/Weeks
Order Ship Time/ Safety Stock	Days/Weeks	Hours
Product Stocked	All Products	Transfer Responsibility To Vendor
Focus	Piece Parts	End Item Part Requirements
Repair Cycle Time	Months	Hours

So What?

- "Know your business…" OA helps us understand:
  - Processes
  - Rules/TTPs
  - Information Exchange Requirements
- Defines an integrated "*Logistics Chain Management*" framework as foundation for:
  - New doctrine, policy, procedures
  - Organizational changes
  - GCSS-MC portfolio
  - New training/education requirements

Next Steps

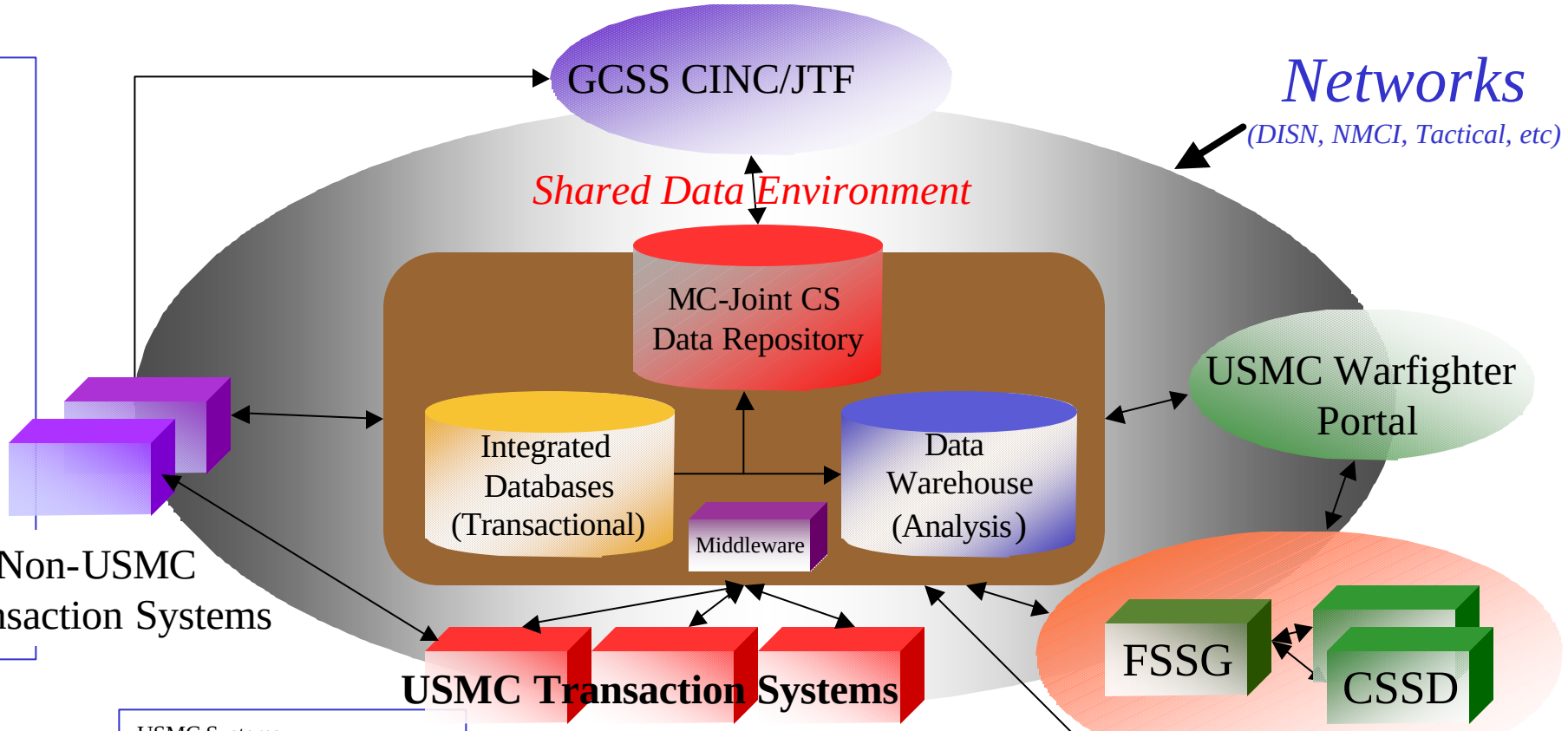
- OA process mapping for 2d FSSG complete.
- Re-align 2d FSSG with OA.
  - Stand-up Order Management capability.
  - Address distribution issues.
- Develop IT pilot.
- Prepare for “Expanded Validation” w/ 2d MarDiv Oct/Nov 02.
  - Regimental sized unit.
  - FSSG perform role as service provider (S).

ARCHITECTURES AND SERVICES

Objective Architecture Vision

- GCSS and DoD Implied Vision
  - Centralized IT and web infrastructure
  - High speed access from anywhere, under all conditions
  - Protected and Secure
  - Single Integrated database
  - Scaleable
  - Browser access
  - Deployment of software to clients unnecessary
  - Centrally managed and seamless maintenance

Notional GCSS-MC Systems Architecture



Joint Systems
AALPS
AMS
ICODES
JFRG II
TC AIMS II
TMIP-M

Other Service Systems
CAIMS-OSE/ROLMS
CAV II
CMOS
COMPASS
CONTRACT
DSS
FAS
MP&E
NIMMS
SCS

USMC Systems
- AIT Capability
- ATLASS II+
  - STRATIS
- MAGTF LOGAIS
  - MDSS II
  - TCAIMS
  - MAGTF II
  - SCM and ALPM
  - MDL

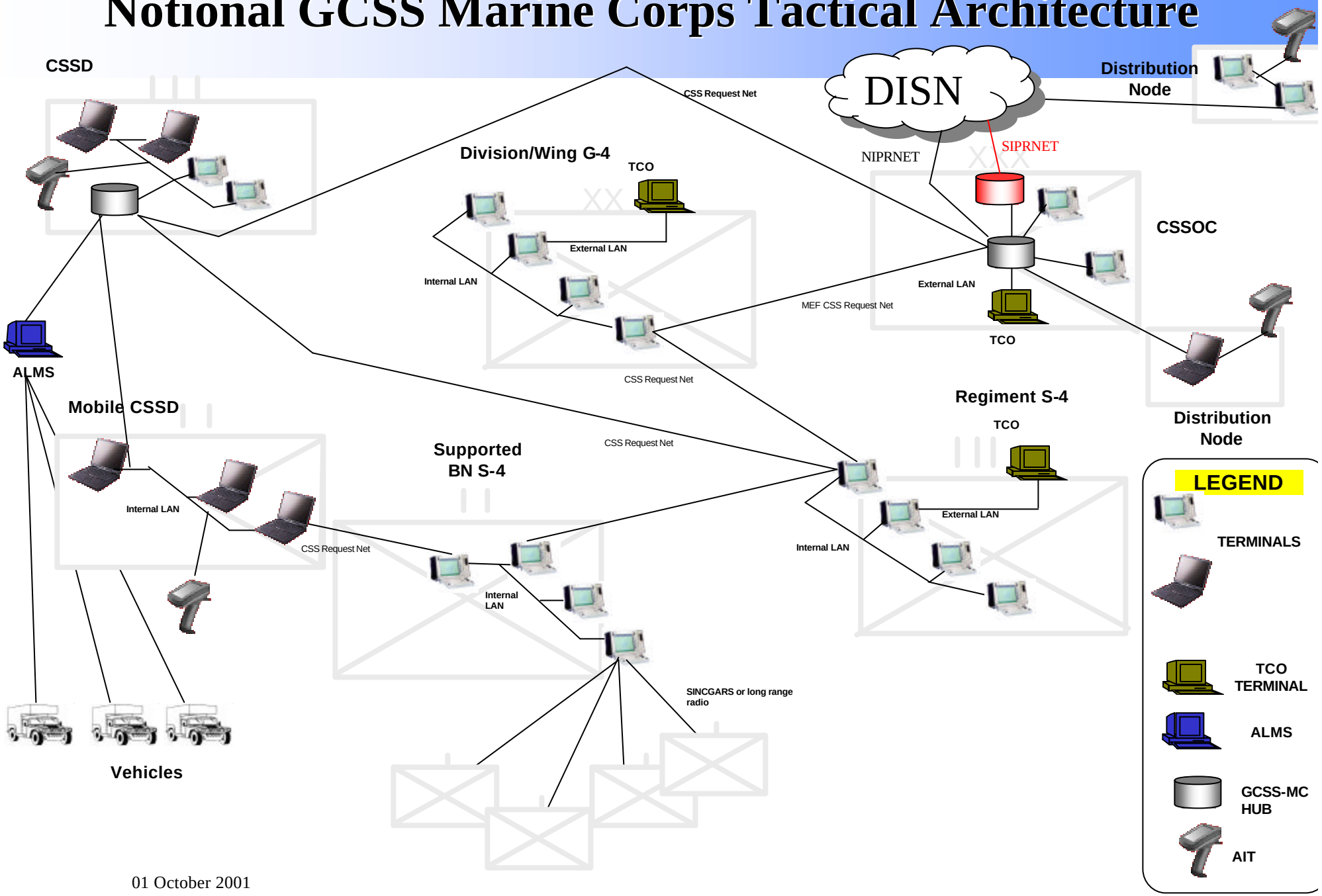
- MCDSS
- MCREM
- MIT
- NEIMS
- Paperless Acquisition
- SDE
- SUL/RRTS
- TDMS
- WRS

Manpower Portfolio
- UD/MIPS
- TFDW/ODSE
- TFSMS

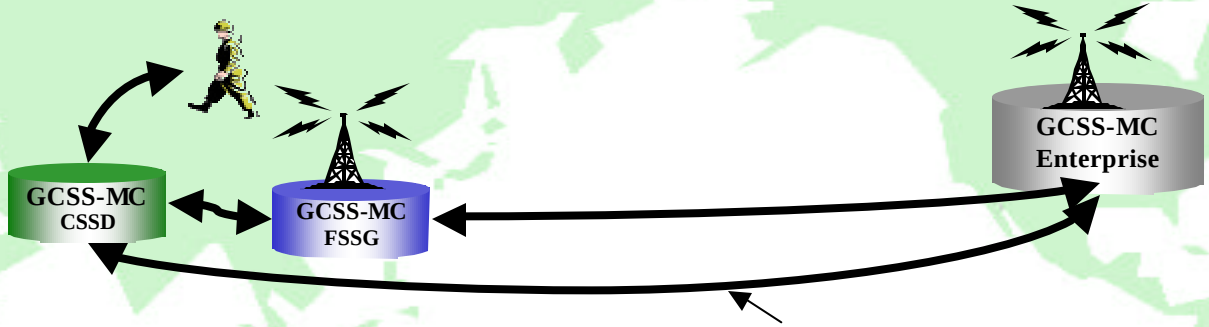
Operations System Components
[RUNTIME]

- Middleware – Oracle Middleware (possibly)
  - Web Services
  - Messaging
- Application Servers – Oracle 9 iAS
- Web Servers - Oracle 9 iAS
- Database Servers – Oracle DBMS
- Failover/Disaster Planning and Systems Management
- Load Balancing; Encryption/Decryption Devices; Web Accelerators
- Query and Reporting Tools
- System Management, Administration and Monitoring Tool
- What Else?

Notional GCSS Marine Corps Tactical Architecture



GCSS-MC Near Term Concept of Operations



If adequate communications available.

GCSS-MC HW and SW

GCSS-MC Long Term Concept of Operations

GCSS-MC HW and SW

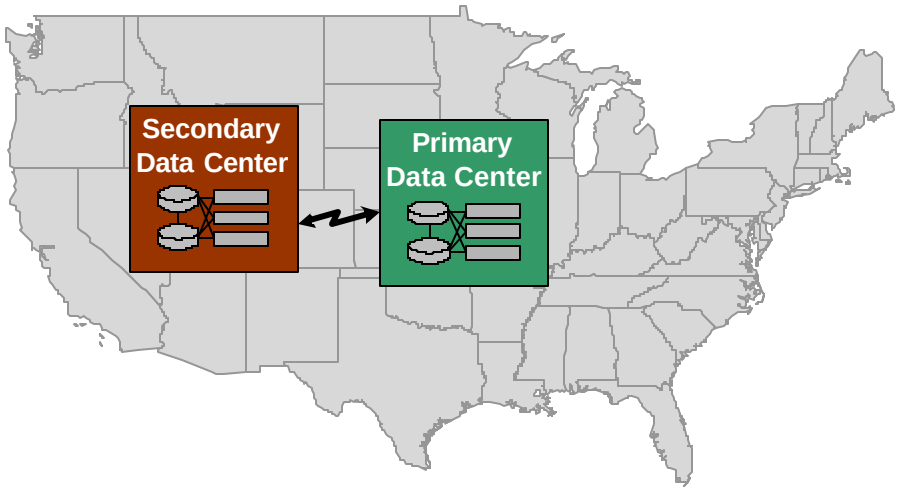
Architecture Issues

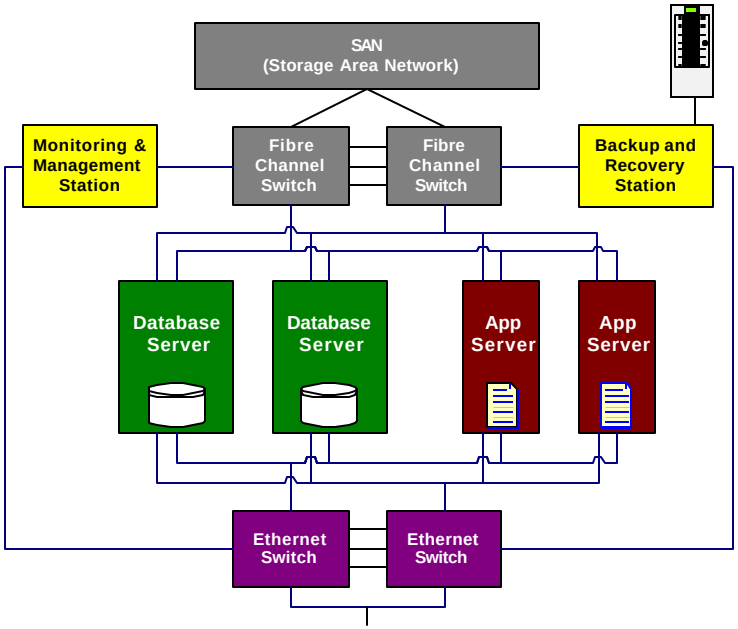
- PROS
  - Remove servers from the battlefield
  - Reduces footprint
  - Reduces support costs and personnel, particularly in the Area of Operations
  - Reduces infrastructure costs
  - Improved Management of Resources - SLAs
- CONS
  - General Network risks
  - Security
  - Lack of bandwidth in the AO
  - Lack of bandwidth to CONUS
  - Performance bottlenecks
  - Centralization Risk

DISASTER RECOVERY (PLANS/ STRATEGY) DATA CENTER: OVERVIEW

- Designed for maximum fault tolerance, both within a local data center and between primary and secondary data centers.
  - Primary site maintains majority of processing equipment, and handles interactive requests. Redundant site handles analytics and reporting.
    - Making use of redundant site maximizes overall equipment usage
  - Local Data Centers have clustered and redundant hardware/software to avoid any single points of failure.
  - Any equipment failures are handled by remaining equipment in the cluster.
  - Environment can be scaled to handle higher traffic volumes with additional hardware
  - Remote data centers receive replication of transactional data for site level recovery.
- Key Design Goals: Minimum downtime and minimum response time.

DISASTER RECOVERY (PLANS/STRATEGY)
DATA CENTER ARCHITECTURE





- All critical components duplicated to route around equipment failures.
- Centralized monitoring and management stations ensure a clear view of all components within both data centers.
- System backups occur to online disk storage and offline tape, ensuring rapid recovery in the event of disk subsystem failures. Backups at each site produce offsite archival backups of system data.

GCSS-MC Near Term Physical Environments

Environments		Enterprise Production	Deployed FSSG	Deployed CSSD	Develop/Devel Spt	QA/Test	Enterprise Test/ Migration staging	Training and Exploration	Data-warehouse
Number of Sites:	**63.5**	**1.5**	**3**	**53**	**1**	**2**	**1**	**1**	**1**
Notes:		Geo Failover between the 2 sites; 1 site w/local Failover; Each site capacity for entire USMC.	Deployed, 1/FSSG, HA; deployed env.s not for garrison	Deployed - 14/FSSG, 12 Reserves & MPF; no failover(based on # UOCs/COC-As)	Dev env. with dev. support tools and products				

PORTFOLIO MANAGEMENT

What is a portfolio?

- "… the **Clinger-Cohen Act** (CCA), mandates that DoD … IT investments are managed and evaluated based on *measurable* contributions to DoD mission *goals* and *priorities*, in *support* of end-to-end *mission outcomes* that cross operational, functional, and organizational boundaries… (DoD 8120)"

- ***Portfolio***: The **resources**, **management**, and **related investments** that are required to accomplish a **mission-related outcome**. A portfolio must include **performance measures** and an expected **return on investment.** (DoD 8120)

Portfolio Responsibilities

1. Allows the PM to manage logistics information technology projects in a consistent disciplined manner.

2. Supports a standard approach to validating and analyzing new logistics information technology requirements.

3. Allows the PM to rapidly fund and deploy new validated, prioritized requirements and technologies that support Portfolio objectives.

Portfolio Process

- Portfolio Management Process consists of:
  1. ***Investment Selection*** -- Creating a portfolio of IT project investments that maximizes mission performance, using an approved set of criteria for consistent comparison of projects *(SRAC).*
  2. ***Investment Control*** -- Measuring ongoing IT projects against their projected costs, schedules, and benefits and taking action to continue, modify, or cancel them.
  3. Investment Evaluation -- Determining the actual value of an implemented investment against the organization's mission requirements and adapting the IT investment process to reflect lessons learned.
- The Portfolio Management Structure is responsible for executing this process

Portfolio Management Structure

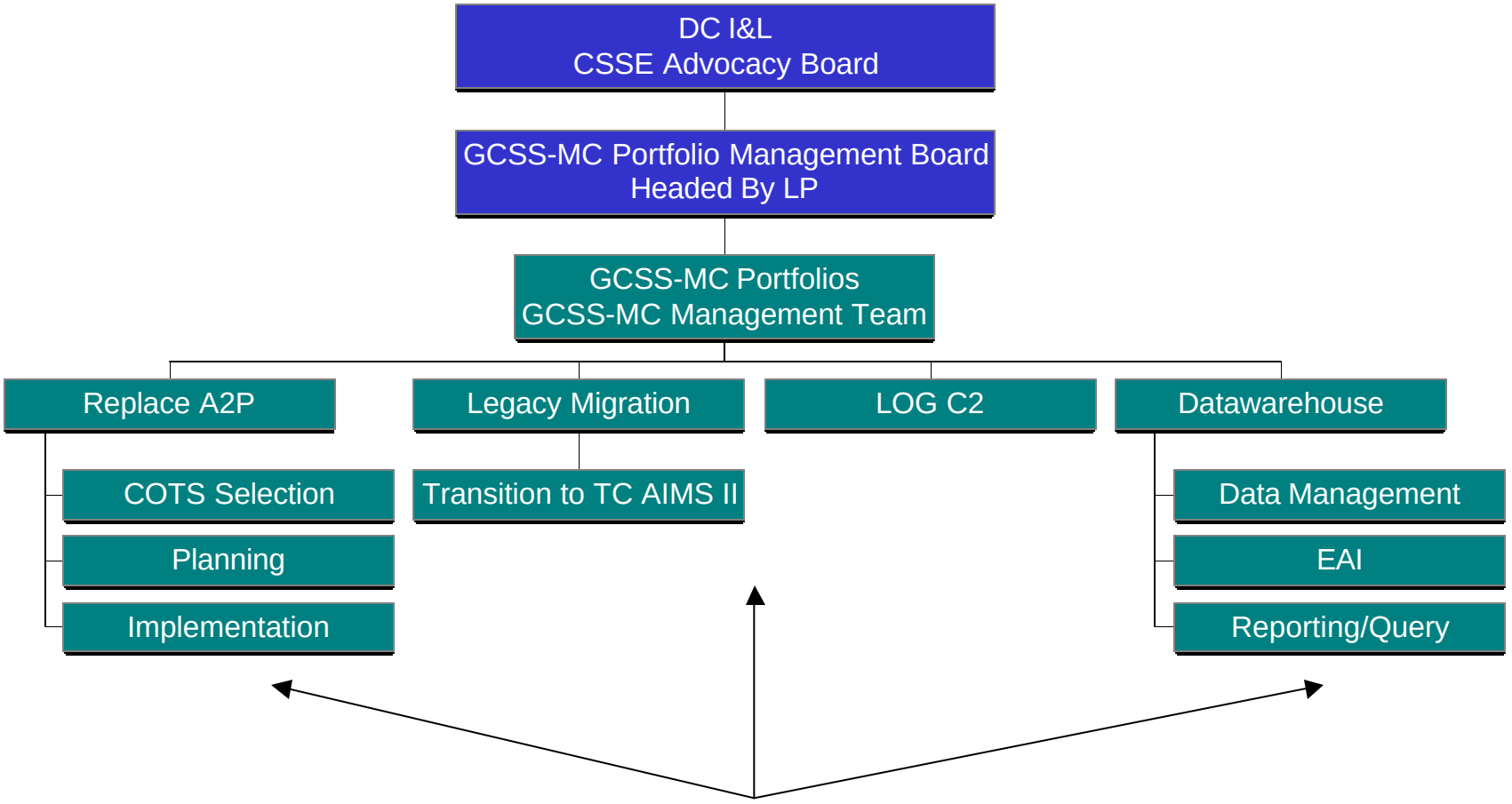
- DC I&L Head, CSSE Advocacy Board Oversight
- Portfolio Management Board (LP Chairs)
  - Members
    - ILC, PMIS, LPV, LF, C4, P&R, Manpower, PP&O,Others
  - Meet 3-4 Times a year, timed with Fiscal Obligations, CSSE Advocacy Board
  - *Follows* DON Portfolio Model
  - *Determine Investments* for 6-18 Months
  - *Validate* Ongoing and Planned IT Acquisition Activities
  - *Prioritize* Emerging Requirements
  - *Preparatory* Work for POM Deliberations
  - *Act* on SRAC Decisions
  - *Act* as a Coordination and Integration forum for Logistics IT Modernizatior
- System/Functional Configuration Boards
  - Project Officers, Operating Forces, HQMC Policy Owners
    - Day to Day System Upkeep (new colors, change layout)
    - Major issues go to Portfolio Management Board

Portfolio Management

- The PMB prioritizes and sets direction and priorities of capabilities
- The Portfolio Manager manages the portfolio, defines systems projects to meet capability requirements assesses results
- Project managers are assigned to systems and project(s) that comprise the required objectives

Portfolio Management Structure

Example Portfolio to Systems Organization



Tentative Systems and Projects

Information Technology Capabilities

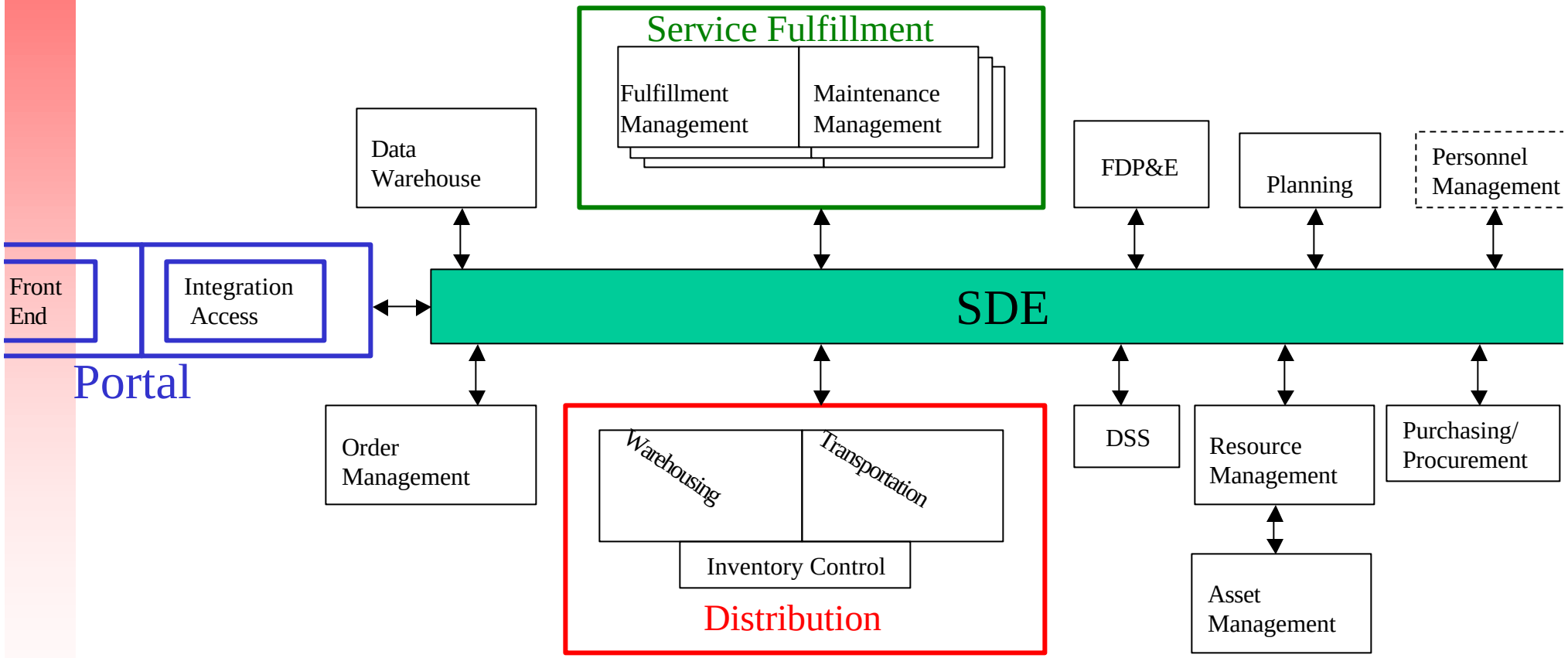
- Capabilities are measurable organizational functions or processes.
- Systems provide the capabilities in whole or part.
- Portfolios are built from single, multiple or combinations of different capability sets.

GCSS-MC Capabilities Set

- Systems will be mapped to one or more portfolio capabilities
- Basic Capabilities are:
  - Decision Support
  - Demand Generation
  - Distribution
  - Force Deployment and Execution
  - Order Management
  - Personnel Management
  - Planning
  - Purchasing/Procurement
  - Resource Management
  - Service Fulfillment
  - Technical Requirements
- Adopted from Integrated Logistics Capabilities
- Approximately 30 Major Sub-capabilities (see backup slides)
- May change as detailed OA develops

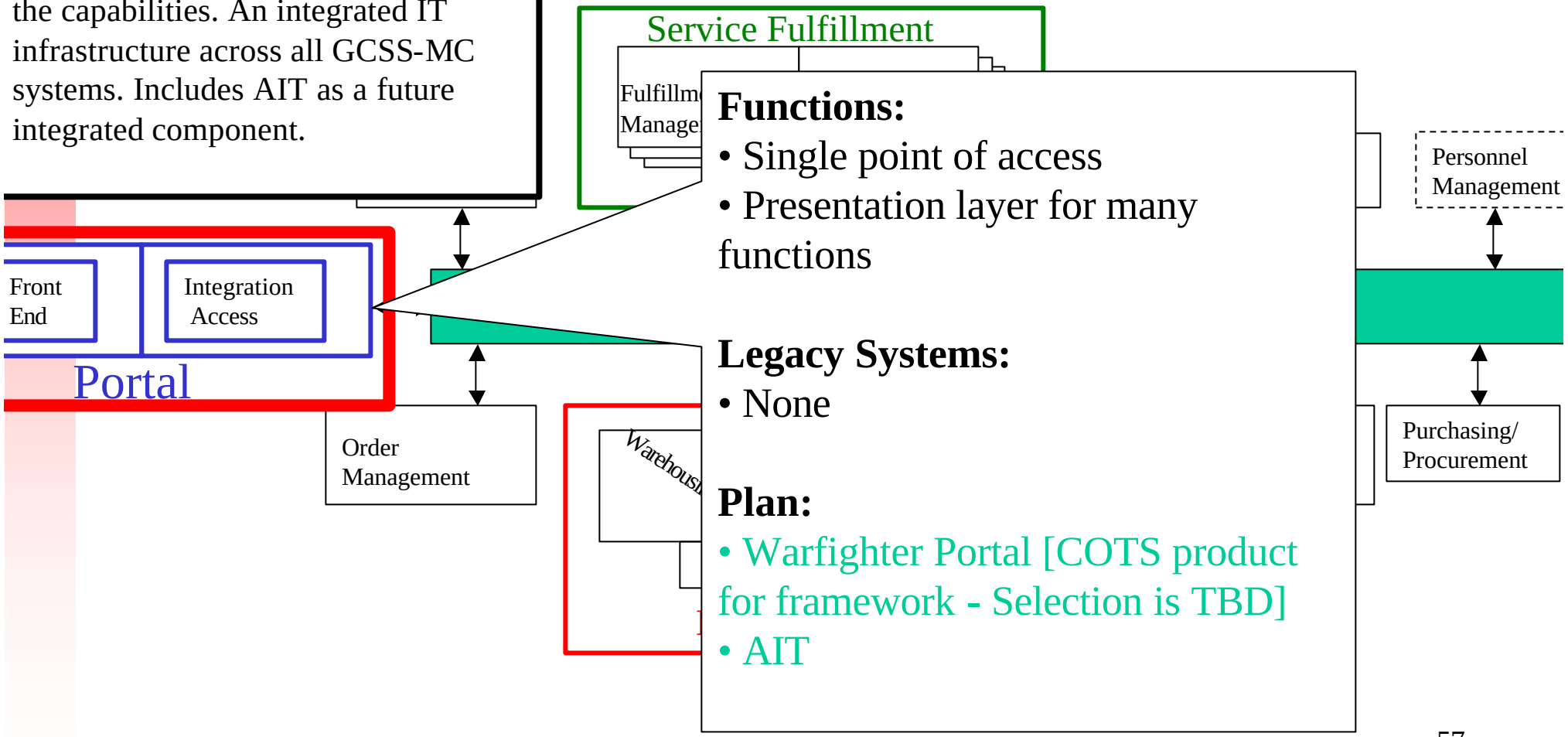
GCSS-MC Capabilities

A portfolio of capabilities, against which systems are allocated



GCSS-MC Capabilities - Portal

Groups all system and technical aspects required to fulfill and support the capabilities. An integrated IT infrastructure across all GCSS-MC systems. Includes AIT as a future integrated component.



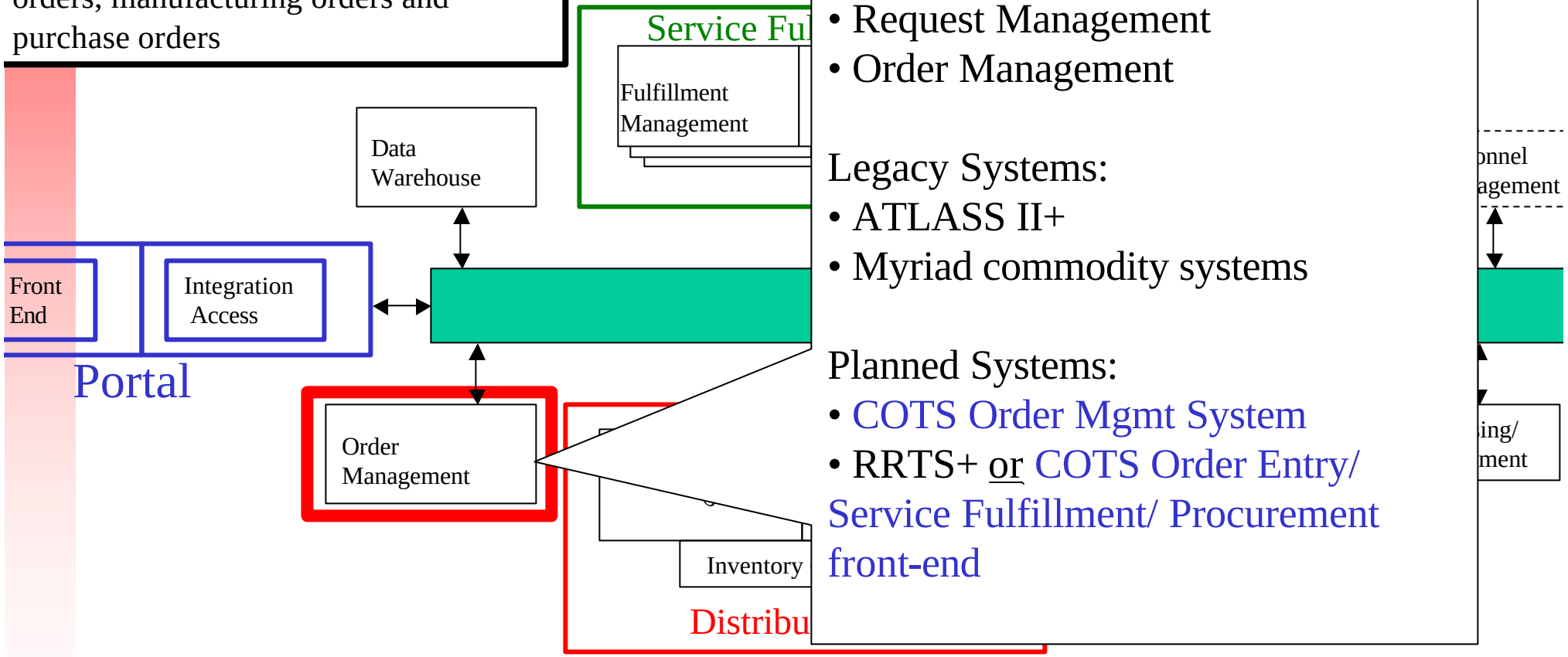
Functions:
- Single point of access
- Presentation layer for many functions

Legacy Systems:
- None

Plan:
- Warfighter Portal [COTS product for framework - Selection is TBD]
- AIT

GCSS-MC Capabilities – Order Management

The ability to plan, direct, monitor, and control processes related to customer orders, manufacturing orders and purchase orders



Functions:
- Request Management
- Order Management

Legacy Systems:
- ATLASS II+
- Myriad commodity systems

Planned Systems:
- COTS Order Mgmt System
- RRTS+ or COTS Order Entry/ Service Fulfillment/ Procurement front-end

GCSS-MC Capabilities – Service Fulfillment

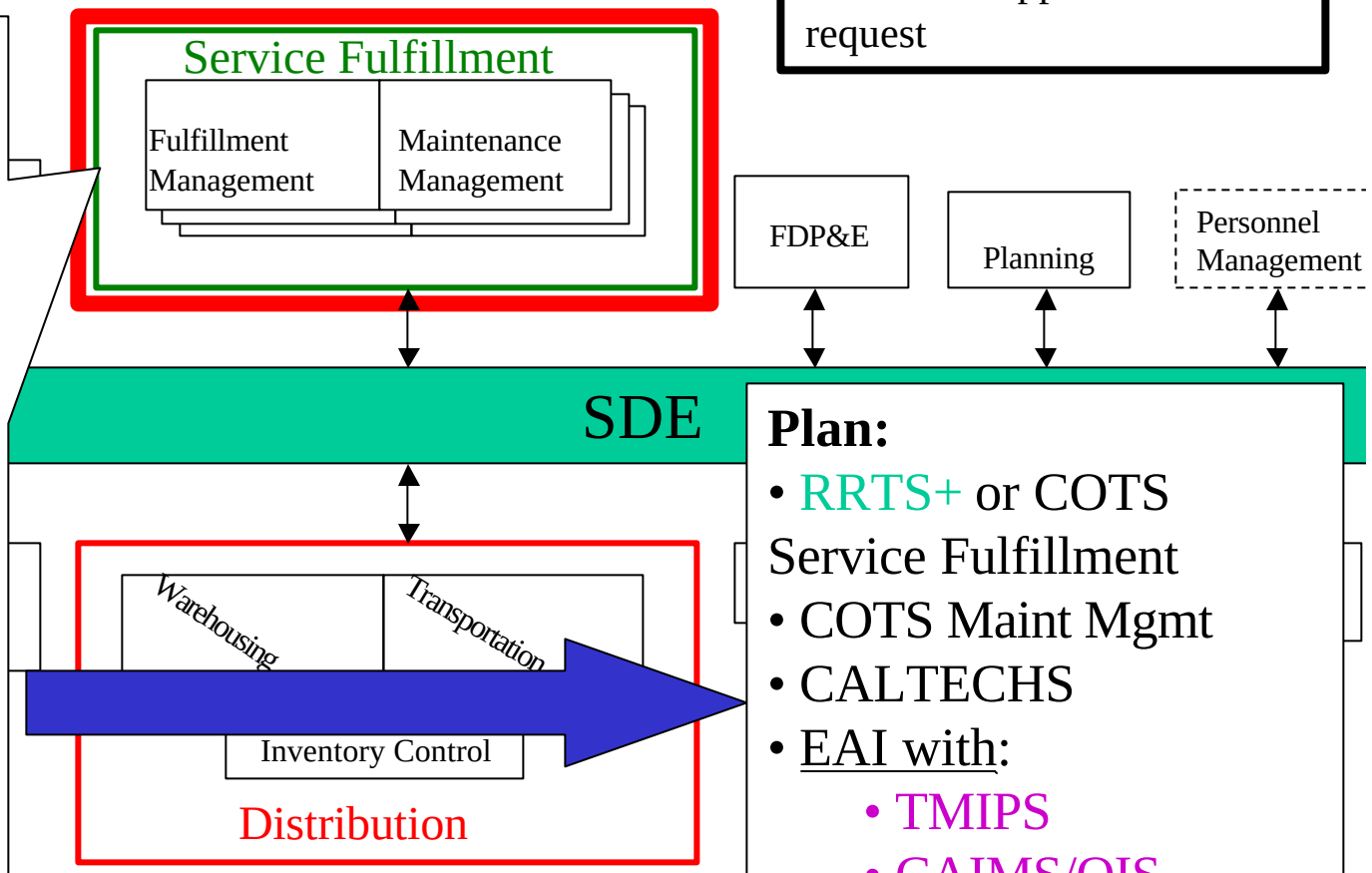
The ability to perform a service in support of a request

Functions:

- Service Fulfillment Management and Execution:
  - Trans, Maint, Eng, Supply, etc.
  - Health
  - Other CSS Services
- Specific Management of Maintenance

Legacy Systems:

- ATLASS II+
- CALTECHS (COTS)
- Myriad commodity systems
- Engineering Tools



Plan:

- RRTS+ or COTS Service Fulfillment
- COTS Maint Mgmt
- CALTECHS
- EAI with:
  - TMIPS
  - CAIMS/OIS
  - FAS
  - Others…

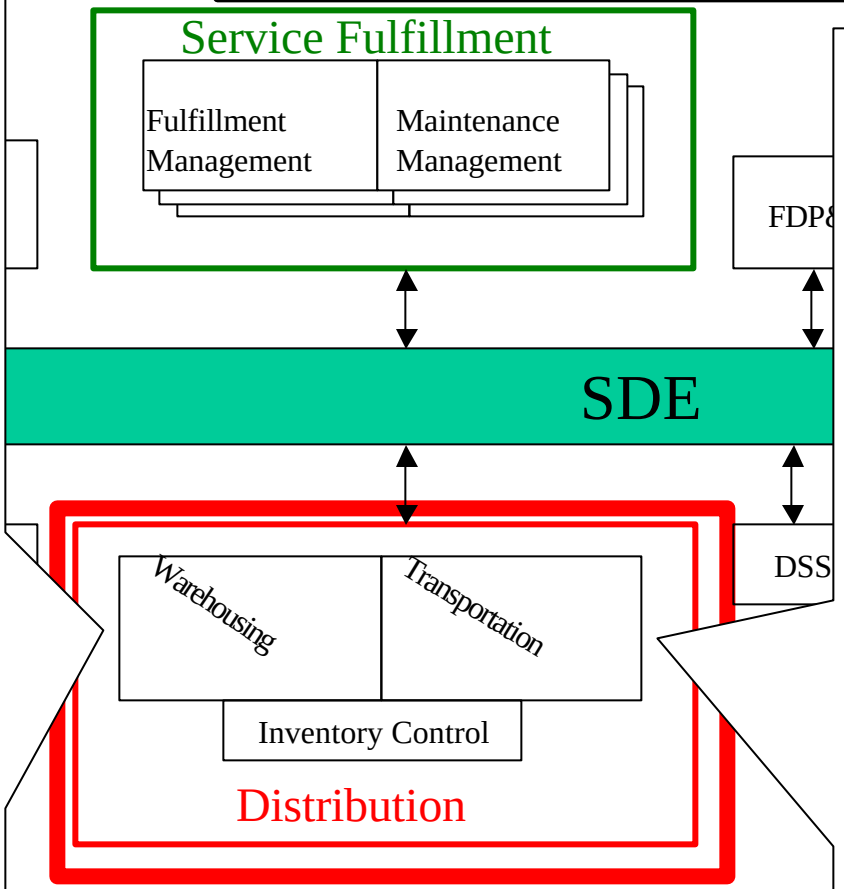
GCSS-MC Capabilities – Distribution

Functions:
- Warehouse Management
- Inventory Control

Legacy Systems:
- ATLASS II+
- STRATIS
- MP&E
- SCS, DSS
- NIMMS
- AIT

Plan:
- COTS Warehouse
- COTS Inventory Control
- AIT
- EAI with:
  - SCS
  - NIMMS

The activities associated with the movement of material from the supplier to the customer



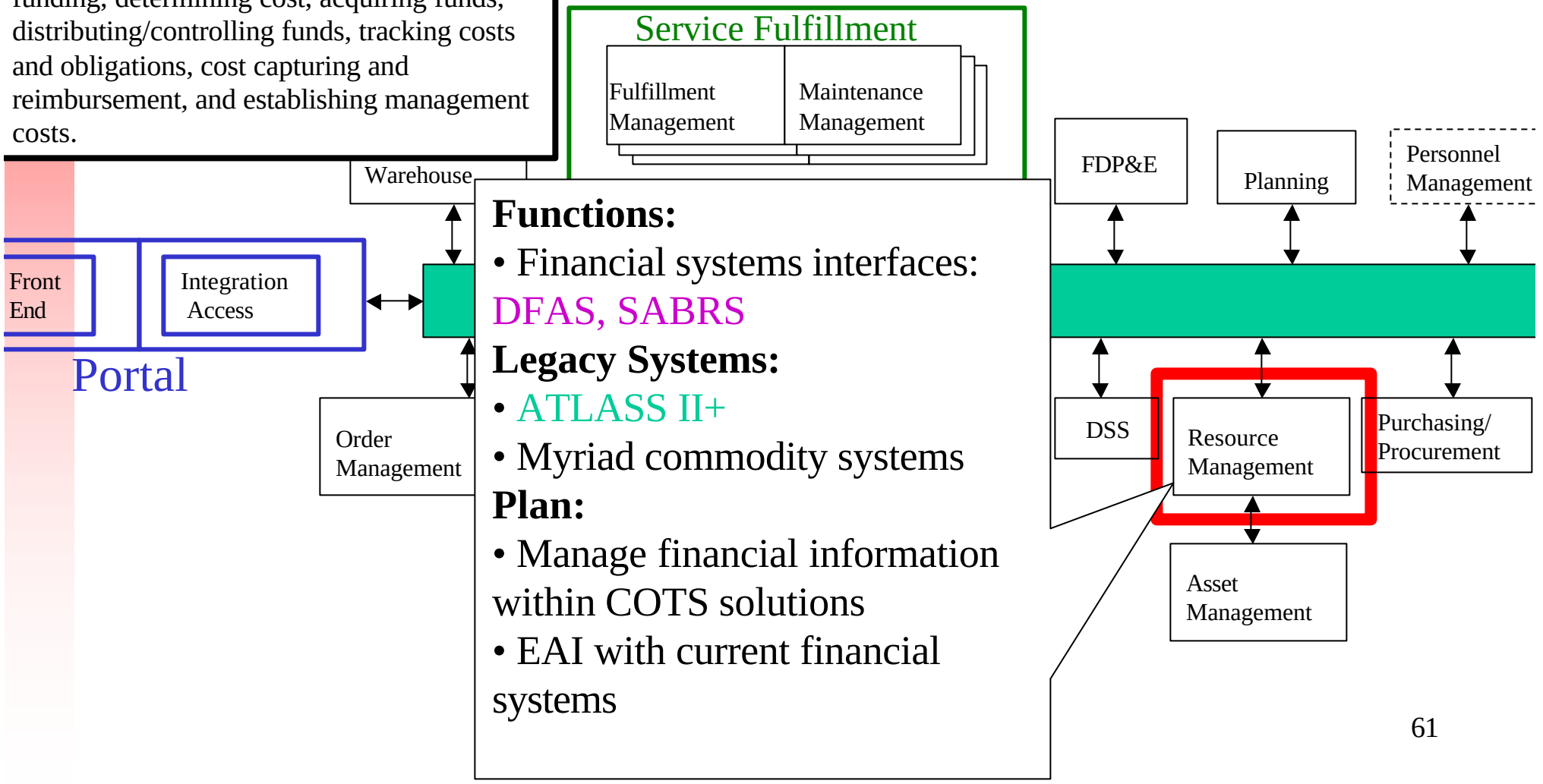
Functions:
- Transportation [Distribution Management and Execution]

Legacy Systems:
- TC AIMS
- CMOS
- CAV II

Plan:
- AALPS / ICODES
- EAI with:
  - TC AIMS II
  - AMS

GCSS-MC Capabilities – Resource Management

The business functions of developing resource requirements, identifying sources of funding, determining cost, acquiring funds, distributing/controlling funds, tracking costs and obligations, cost capturing and reimbursement, and establishing management costs.



Functions:

- Financial systems interfaces: DFAS, SABRS

Legacy Systems:

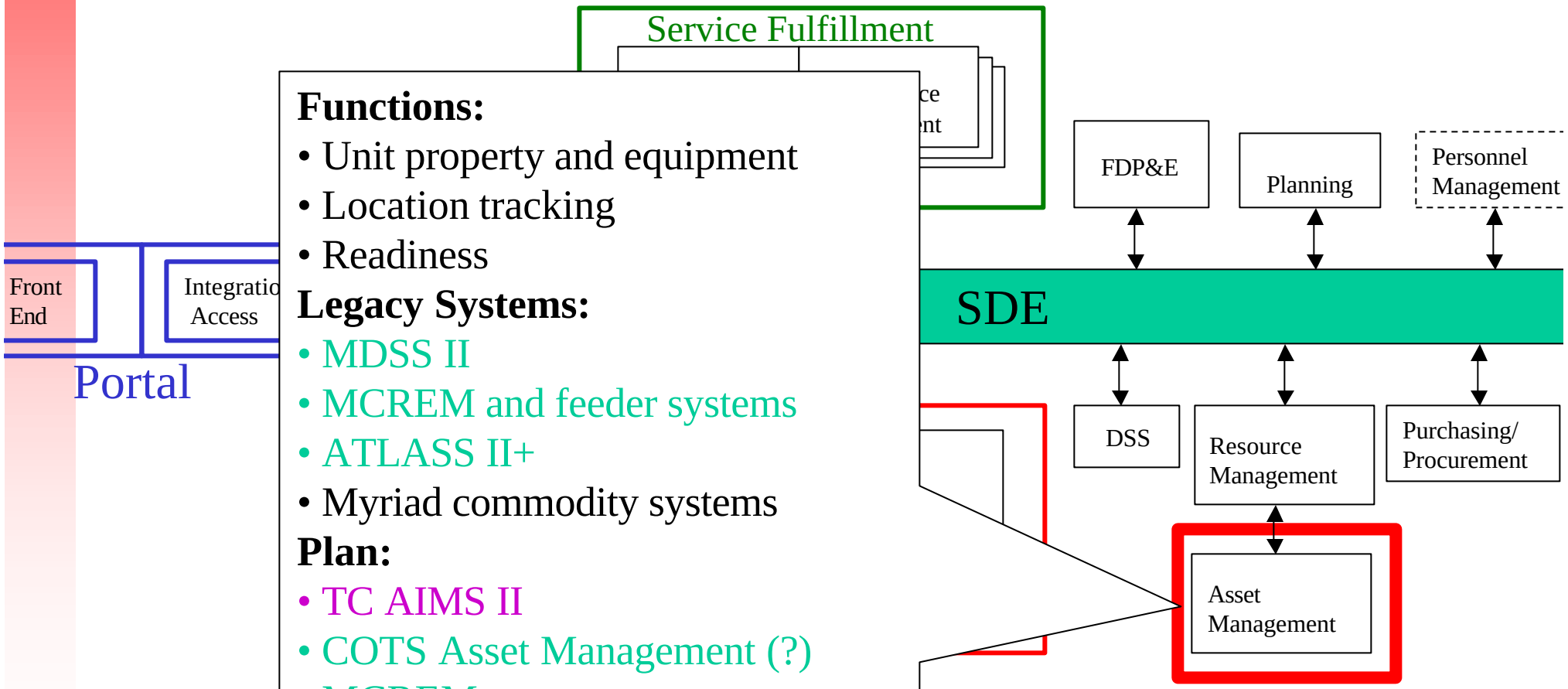
- ATLASS II+
- Myriad commodity systems

Plan:

- Manage financial information within COTS solutions
- EAI with current financial systems

GCSS-MC Capabilities – Asset Management

The business function of tracking and controlling organizational assets.



Functions:
- Unit property and equipment
- Location tracking
- Readiness

Legacy Systems:
- MDSS II
- MCREM and feeder systems
- ATLASS II+
- Myriad commodity systems

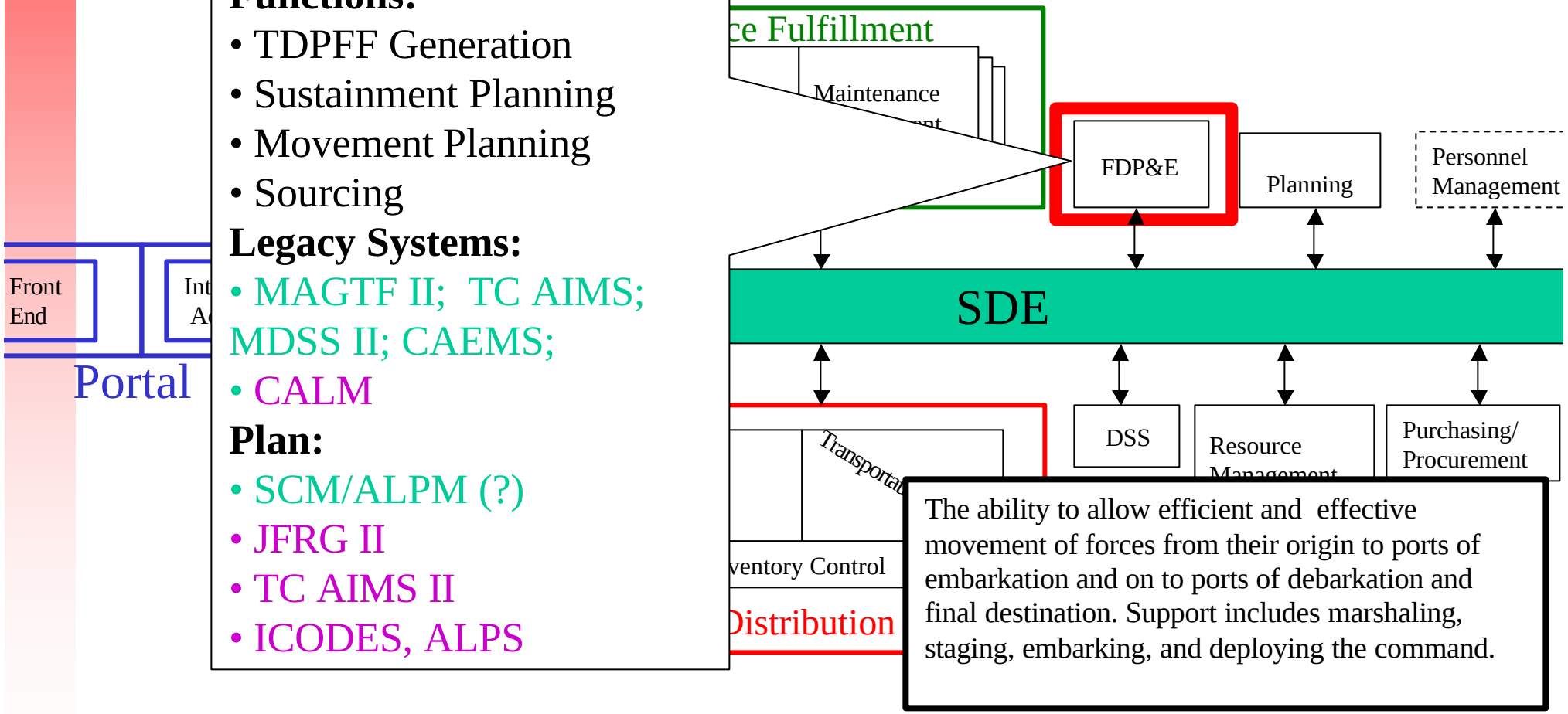
Plan:
- TC AIMS II
- COTS Asset Management (?)
- MCREM
- Other systems (?)

GCSS-MC Capabilities – FDP&E

Functions:
- TDPFF Generation
- Sustainment Planning
- Movement Planning
- Sourcing

Legacy Systems:
- MAGTF II; TC AIMS; MDSS II; CAEMS;
- CALM

Plan:
- SCM/ALPM (?)
- JFRG II
- TC AIMS II
- ICODES, ALPS



The ability to allow efficient and effective movement of forces from their origin to ports of embarkation and on to ports of debarkation and final destination. Support includes marshaling, staging, embarking, and deploying the command.

GCSS-MC Capabilities – Decision Support Systems

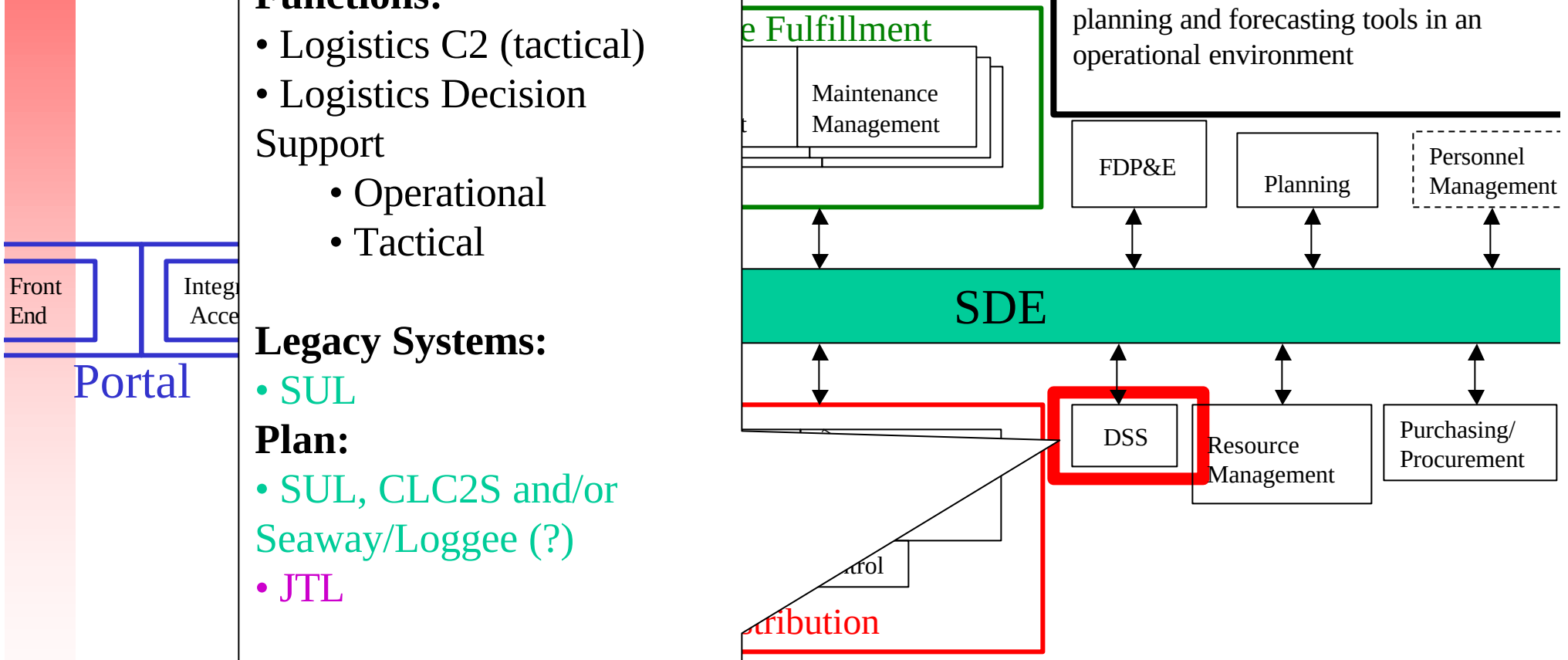
The ability to support the commander's decision making process by providing situational awareness, collaborative planning and forecasting tools in an operational environment

Functions:
- Logistics C2 (tactical)
- Logistics Decision Support
  - Operational
  - Tactical

Legacy Systems:
- SUL

Plan:
- SUL, CLC2S and/or Seaway/Loggee (?)
- JTL

(possible overlap with some FDP&E functions)



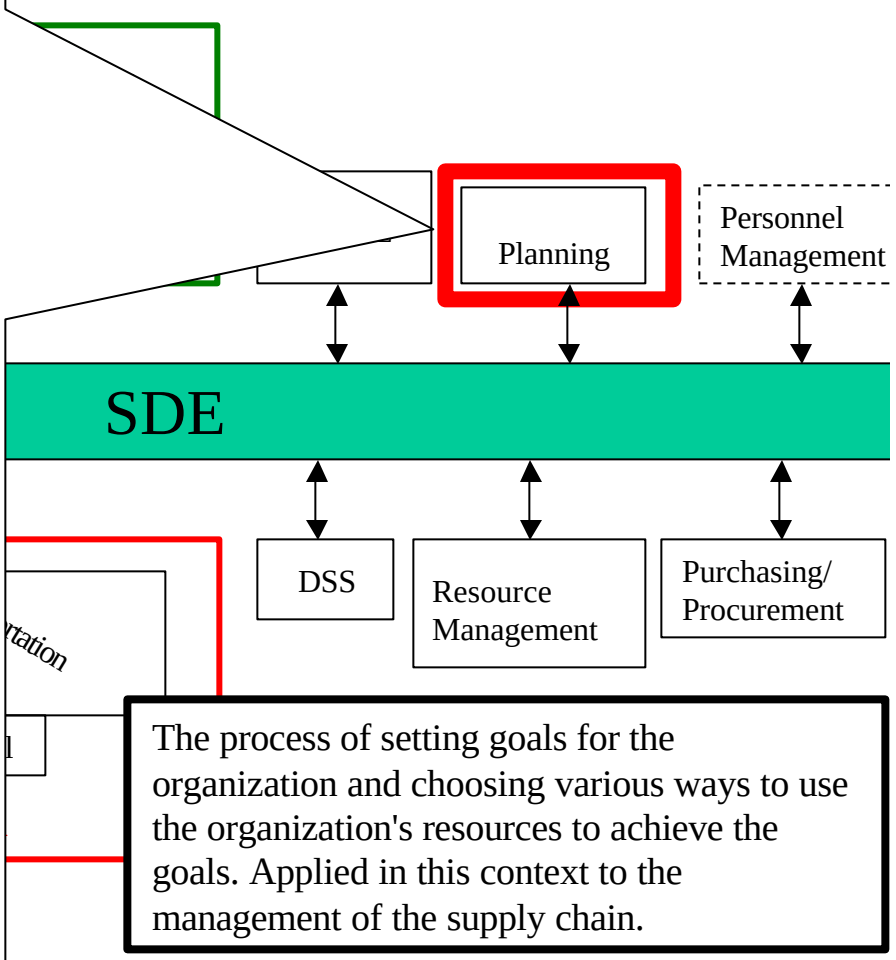
GCSS-MC Capabilities - Planning

Functions:
- Logistics Planning
- Logistics Chain Planning
- Logistics Management Planning
- Logistics Execution Planning
    - Demand forecasting
    - Predictive maintenance

Legacy Systems:
- MCDSS
- COMPASS Contract

Plan (some combination):
- MCDSS
- COMPASS Contract
- PFSA [Capabilities integrated with COTS capabilities – possibly]
- Autonomic Logistics Information System
- Engineering Tools

(possible overlap with some FDP&E functions)



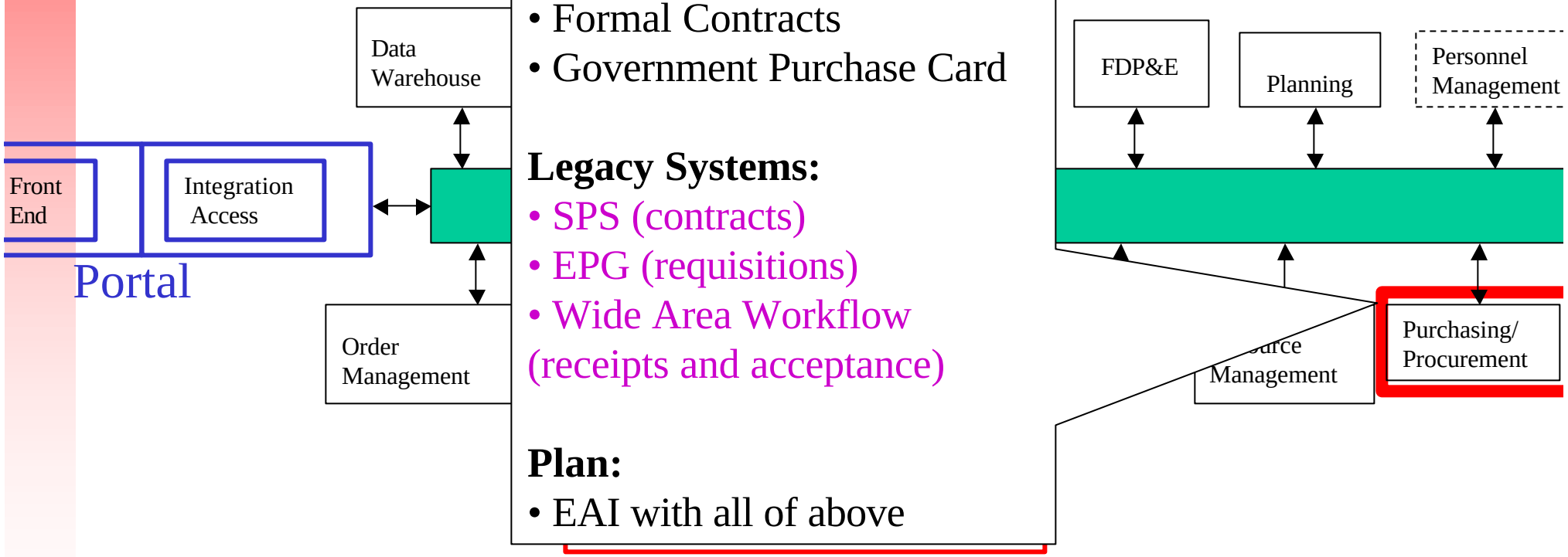
GCSS-MC Capabilities - Procurement

The ability to procure materials, supplies, and services

Functions:
- Purchasing
- Procurement
- Formal Contracts
- Government Purchase Card

Legacy Systems:
- SPS (contracts)
- EPG (requisitions)
- Wide Area Workflow (receipts and acceptance)

Plan:
- EAI with all of above

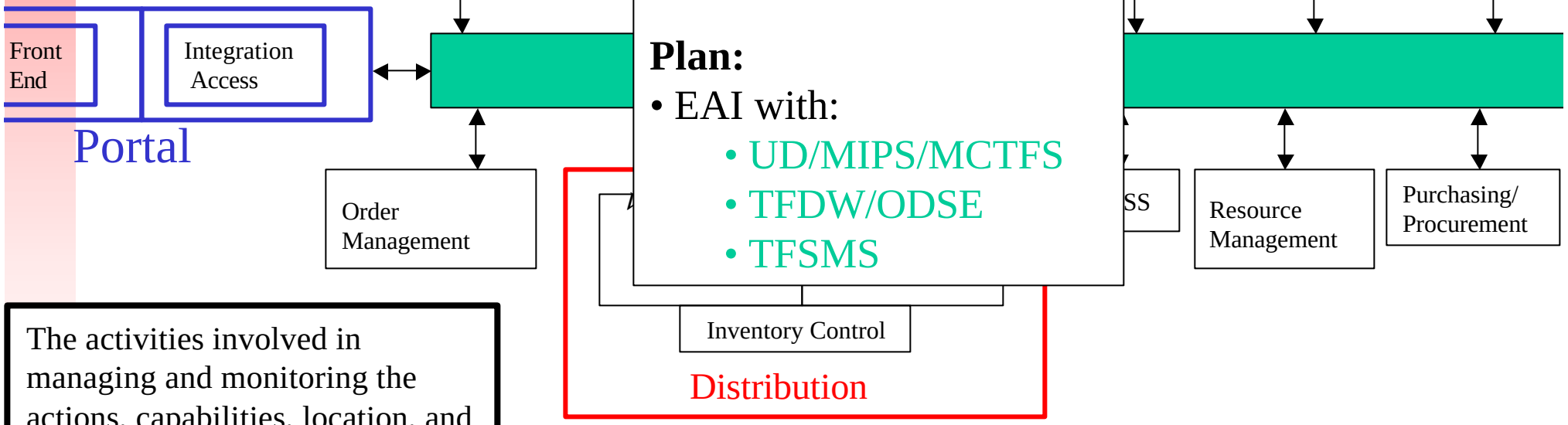


GCSS-MC Capabilities – Personnel Management

Functions:
- Personnel Management
- Manpower

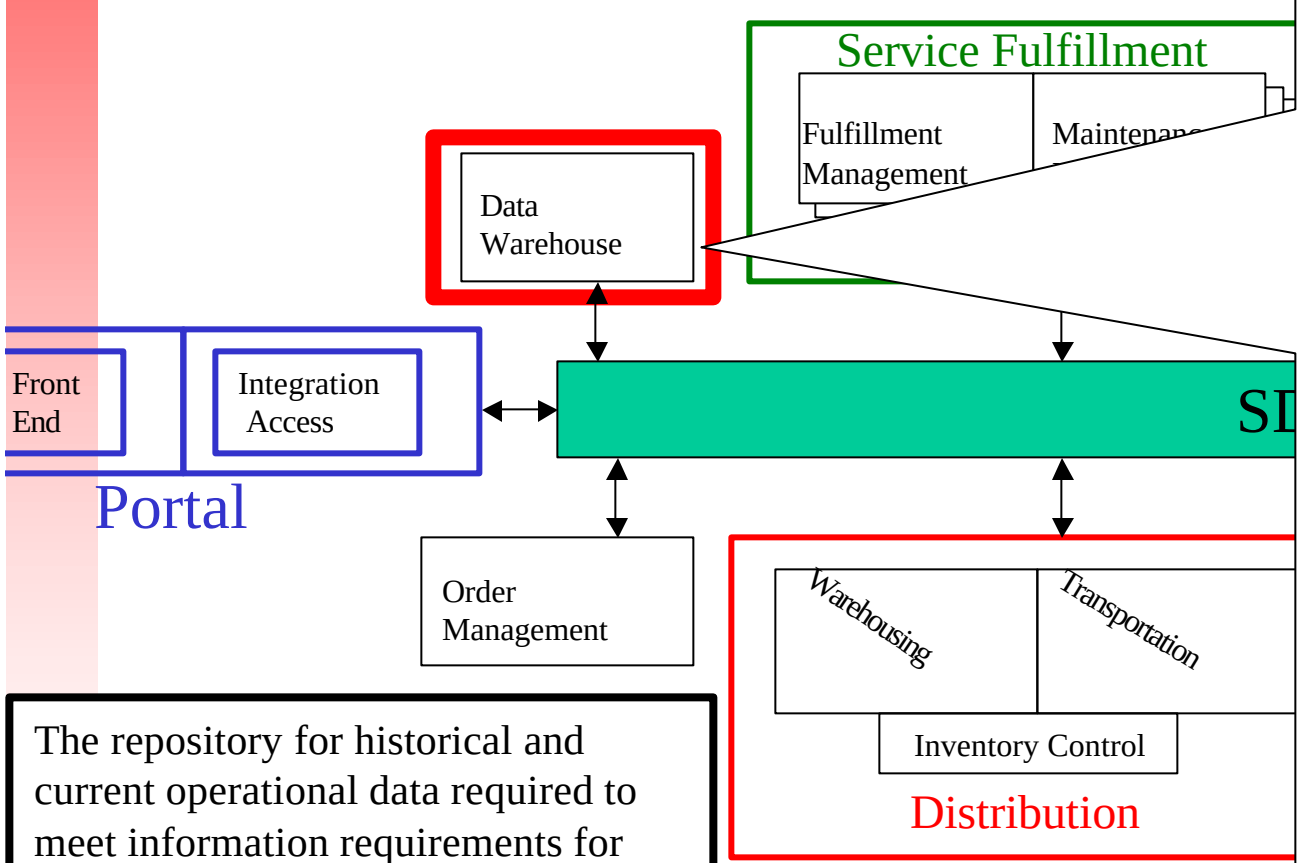
[Related Portfolio to Logistics]

Plan:
- EAI with:
  - UD/MIPS/MCTFS
  - TFDW/ODSE
  - TFSMS



The activities involved in managing and monitoring the actions, capabilities, location, and training of an organization's personnel

GCSS-MC Capabilities – Data Warehouse



The repository for historical and current operational data required to meet information requirements for decision support, planning, Log C2, asset and in-transit visibility

Functions:
- All functional areas

Legacy Systems:
- MDL
- MCREM

Plan:
- MDL; MCREM (?)
- TDMS
- ODSs; Data Warehouse; Datamarts
- EAI with:
  - Transactional Systems
  - GCSS (CINC JTF)

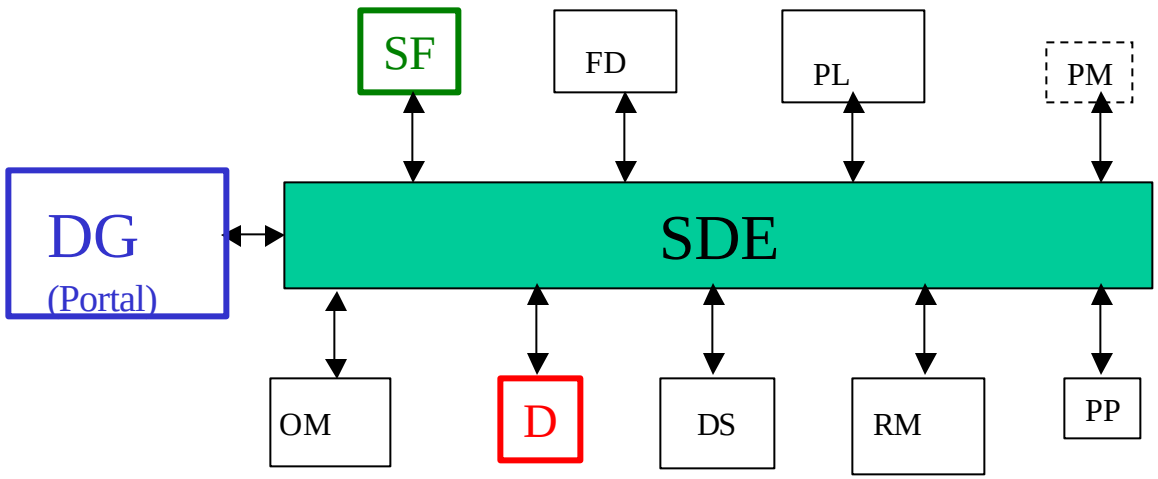
GCSS-MC IMPLEMENTATION

GCSS-MC Drivers

Infrastructure
NMCI
TACTICAL COMMUNICATIONS
SHIPBOARD COMMUNICATIONS
SECURITY

Requirements
ORD's
ILC OA
GCSS CRD
GCSS PMB
CCB

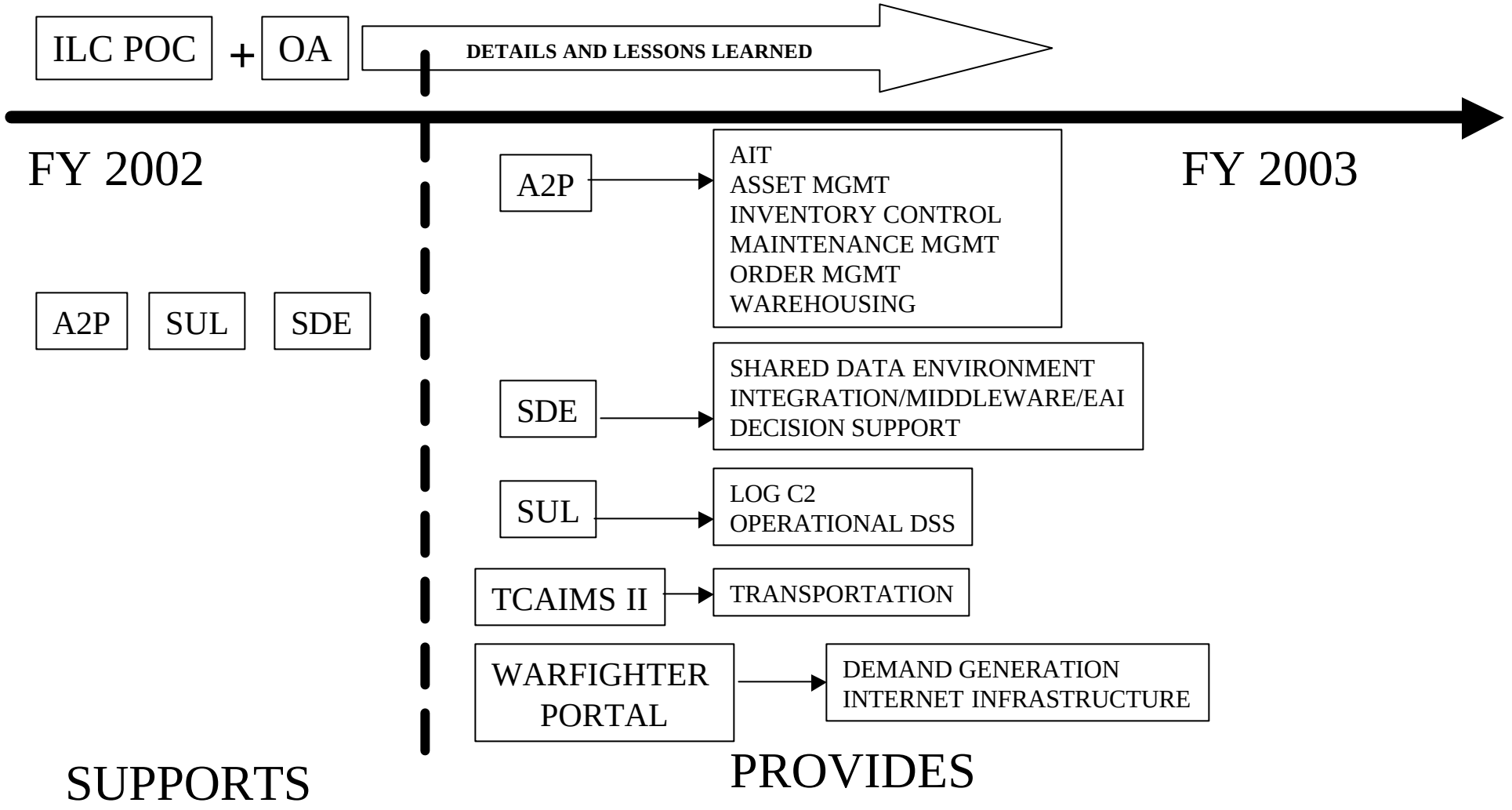
Systems
GCSS-MC PORTFOLIO
MAJOR SYSTEMS
ATLASS II+
TCAIMS II
SUL
SDE
Legacy System Support



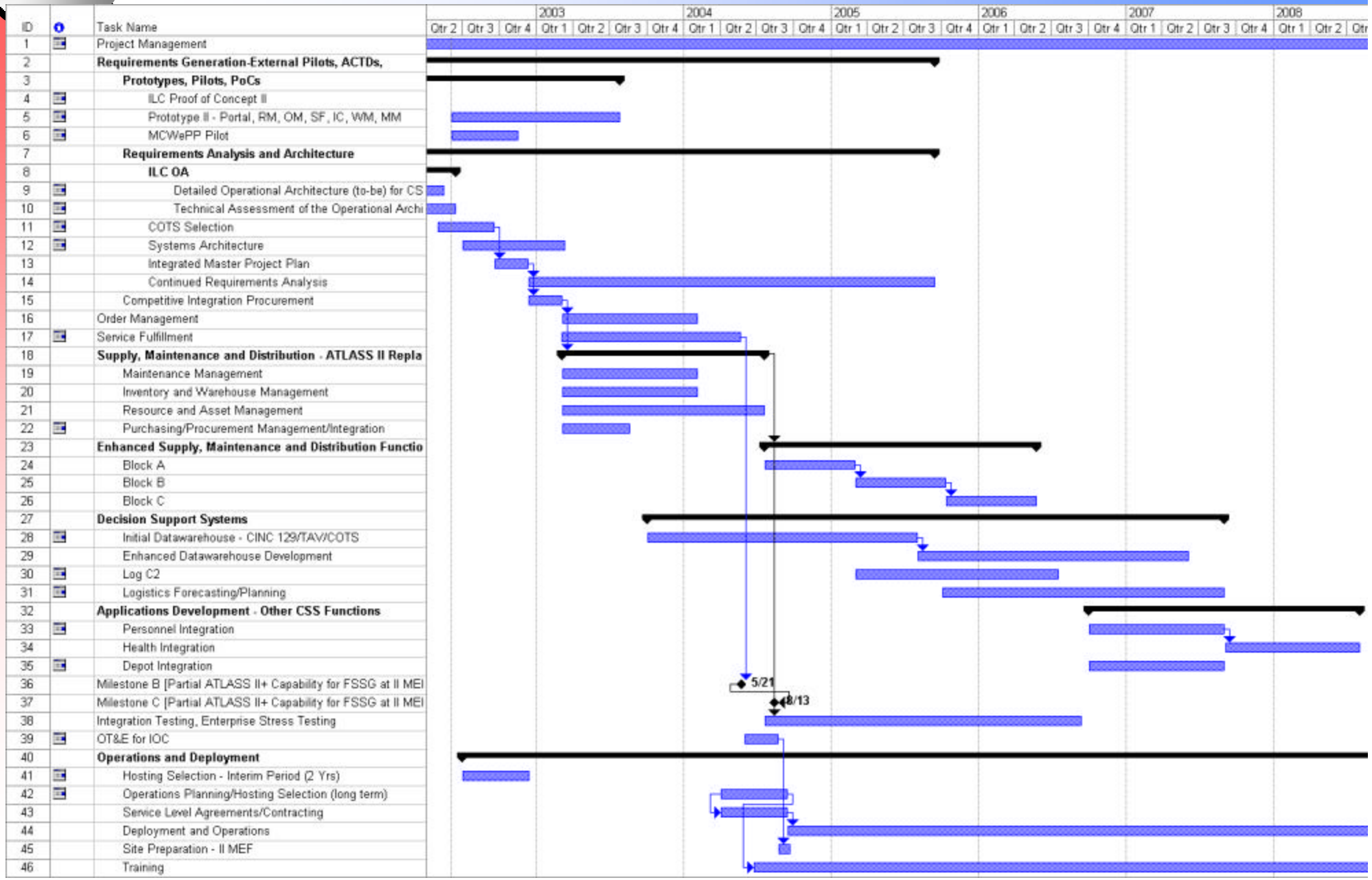
Initiatives
WARFIGHTER'S PORTAL
PM LAV IDE
AUTONOMIC LOGISTICS
GATOR LINK
ONR RESEARCH
BIC AIMS

Key Activities
TECHNICAL ASSESSMENT
ILC PoC
SRAC
COTS Selection

GCSS-MC Responsibilities



Overall Schedule (DRAFT)



ID	Task Name
1	Project Management
2	**Requirements Generation-External Pilots, ACTDs,**
3	**Prototypes, Pilots, PoCs**
4	ILC Proof of Concept II
5	Prototype II - Portal, RM, OM, SF, IC, WM, MM
6	MCWePP Pilot
7	**Requirements Analysis and Architecture**
8	**ILC OA**
9	Detailed Operational Architecture (to-be) for CS
10	Technical Assessment of the Operational Archi
11	COTS Selection
12	Systems Architecture
13	Integrated Master Project Plan
14	Continued Requirements Analysis
15	Competitive Integration Procurement
16	Order Management
17	Service Fulfillment
18	**Supply, Maintenance and Distribution - ATLASS II Repla**
19	Maintenance Management
20	Inventory and Warehouse Management
21	Resource and Asset Management
22	Purchasing/Procurement Management/Integration
23	**Enhanced Supply, Maintenance and Distribution Functio**
24	Block A
25	Block B
26	Block C
27	**Decision Support Systems**
28	Initial Datawarehouse - CINC 129/TAV/COTS
29	Enhanced Datawarehouse Development
30	Log C2
31	Logistics Forecasting/Planning
32	**Applications Development - Other CSS Functions**
33	Personnel Integration
34	Health Integration
35	Depot Integration
36	Milestone B [Partial ATLASS II+ Capability for FSSG at II MEI
37	Milestone C [Partial ATLASS II+ Capability for FSSG at II MEI
38	Integration Testing, Enterprise Stress Testing
39	OT&E for IOC
40	**Operations and Deployment**
41	Hosting Selection - Interim Period (2 Yrs)
42	Operations Planning/Hosting Selection (long term)
43	Service Level Agreements/Contracting
44	Deployment and Operations
45	Site Preparation - II MEF
46	Training

Short Term/High Level Acquisition Plan

Acquisition Strategy -	FY02	FY03				FY04				FY05			
Critical Path Activities	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
COTS Selection													
Systems Architecture				B									
Project Planning/Scoping - B0								C					
Compete B0									IOC				
Implement B0 - *Replace A2P*													
Rollout B0													
Plan B1 [Scope] -Replace SASSY?													
Implement B1													
Rollout B1													
Plan B2													

The letters show Milestone Decisions. IOC represents fielding at 2nd FSSG.

This shows the GMT's belief in what is important to get done. Other commitments are to support the ILC's PoC using an Expanded Concept Validation. The ILC is oriented to the Fall ILC PoC.

COMMERCIAL OFF-THE SHELF (COTS) INTEGRATION EFFORTS

- COTS or GOTS will form the core of GCSS-MC
  - CMC Ltr of 1 April 2002
- COTS needed to replace current Supply and Maintenance systems:
  - Focus on Supply Chain Management and EAM functionality
- Gartner Group initiating ERPS Selection Study (*Analysis of Alternatives)*
  - Evaluate Options
  - Identify Risks and Issues
  - Validate Budgets
  - Develop Best Course of Action
  - Recommend ERPS/Best of Breed Product Sets

CURRENT COTS STATUS

- First Decisions Anticipated by July 2002
- Abbreviated ERP packages used during POC and Prototyping Efforts at II MEF
- ERP Packages
  - Oracle Business Applications (Manpower)
  - MINCOM Ellipse (Blount Island)
  - SAP (DLA)
- ERP packages will rely on a core functionality with bolt-ons as appropriate
- EAI Packages – Oracle, Vitria, MQ Series, WebMethods, others

COTS SELECTION

- Gartner Group Consulting engaged to support GCSS-MC applications package selection
- Process just started
- Will complete in 3-4 months
- Output will be recommendations on which packages to use

GARTNER COTS SELECTION METHODOLOGY

Three-Phased Approach

Internal Needs Assessment:

- Create project team
- Needs identification
  - Mandatory
  - Valued
  - "Nice to have"
- Requirements definition
- Long list
- RFI/RFP issue

Detailed Vendor Analysis:

- Evaluate responses
- Mandatory requirements analysis
- Short list
- Detailed vendor analysis and RFP
- Scripted demos
- Select finalists

Negotiation and Fina Selection:

- Develop terms and contracts
- Negotiating strategy
- Negotiate contract
- Select winner
- Place contract

REFINED HIERARCHICAL ANALYSIS (RHA): A RIGOROUS SELECTION METHODOLOGY

Challenges to Selection

1) USMC is unfamiliar with COTS business applications
2) There are few criteria are clearly documented
3) Lack of structure and methodology
4) Political agendas and predetermined outcome
5) Analysis paralysis
6) Lack of validated information

Benefits of RHA

1) Reduces the complexity of the decision by organizing it in a structured format
2) Ensures the comparison of homogeneous characteristics
3) Provides a framework to check the logical consistency of the decision
4) Undermines political agendas
5) Facilitates leadership buy-in
6) Rapid

RISK MANAGEMENT

RISK MANAGEMENT AND MITIGATION

- Managed through the GCSS-MC Management Team
- Currently establishing Issues and Risk databases
- Will use cross-functional working groups to analyze/plan for risk
- Risk Plan will be developed after COTS selection and Acquisition Planning
- POM 04 includes funding risk factors to ensure 80% cumulative probability of success
- Schedule allows for 6-12 month slippage to still be able to achieve most of the GCSS requirements by FY06
- Risk is still high and needs to be carefully managed

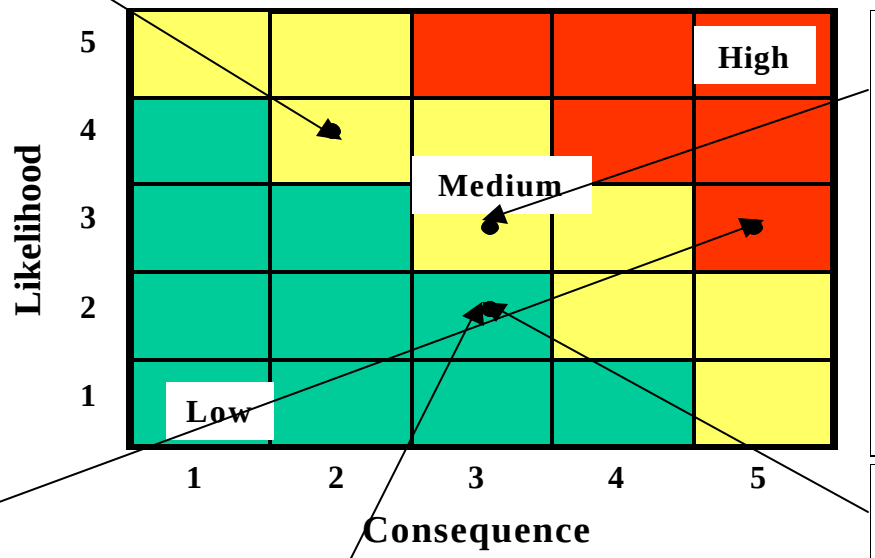
Program Risk Assessment

Ms. Sonia Kitchen, Project Officer, GCSS-MC ---September 2001

Risk Advisory Board
Portfolio Management Board
Information Technology Steering Group
Executive Steering Committee (ILC)
Mr. David Ferris, PGD IS and I
Col Robert E. Love, ILC
Col Richard M. Nixon, LPV
LtCol Robert Rackham, HQMC LPV
Ms. Sonia Kitchen, PO-GCSS-MC

#1 COTS/GOTS Selection and Integration. Cost to customize software to meet Marine Corps operational requirements may increase costs and extend schedule.
==========
Approach: Thorough examination of COTS/GOTS products and laboratory demonstrations will minimize the amount of customization required of COTS/GOTS solutions.

#2 Deployability of Functionality. COTS/GOTS solutions may not support an asynchronous low bandwidth communications environment.
==========
Approach: ILC OA, TA, SA and POC will provide specific details for analysis. Use of lessons learned from the Small Unit Logistics ACTD will assist in GCSS-MC operability in deployed environments



#3 Organizational Change Management. The organizational structure of the USMC will change. Policies and procedures will change. Many legacy notions from transaction types to business rules will change or be eliminated. New technologies will be introduced causing disruption.
==========
Approach: HQMC and SYSCOM must communicate. Policies must be changed in advance of technology introduction. Training is only part of the process.

#5 Expectation Mgmt. Failure to meet users expectations.
==========
Approach: Continued close alliance with strategic partners at all levels of the community. Development of prototypes and demonstration with close involvement of operational units. Distribution of Advise Notices, and use of VTCs and briefings to operational units.

#4 Interoperability. Integration with Joint systems and compliance with JTA and DII/COE.
==========
Approach: Components of GCSS-MC will be designed to comply with Level 6 of the DII/COE. Data standardization and use of commercial networking and business protocols will mitigate integration with other joint CSS Systems. Participation in the GCSS Family of Systems working groups will keep GCSS-MC abreast of inter-service issues and lessons learned.

MAJOR RISKS

Risk	Mitigation Plan
COTS	Use of objective 3rd party to aid selection of optimal COTS approach and product(s). Limit customization through change in business processes. Select the COTS early in the program. It forms basis for most other plans and risks.
Deployability	Insert requirements into COTS selection, build prototypes, thoroughly test in lab and field. Coordinate requirements and solutions with SE&I and C4.
OCM	Employ constant and proactive communications about the efforts. Create buy-in. Initiate policy changes as the COTS implementation is being planned.
Expectation	Maintain strong Scope management controls. Ensure initial capabilities are not “gold plated.” Limit inclusion of external (non-key) functions in initial releases.
Interoperability	Coordinate with DISA and other Services. Build flexible infrastructure with standard EAI tools.

CRITICAL SUCCESS FACTORS

- Leadership
  - Support/sponsorship by USMC leadership
  - Institutionalization of Portfolio Management and PMB processes
  - Functional Advocate support to change the business
- Technologies
  - Appropriate Selection of Core technologies & COTS
  - Effective Enterprise Integration
  - Achievement of Shared Data and Web Vision
  - Ability to operate in deployed environments
  - Stable, Robust, Highly Available
- Decision Process
  - Process orientation leading to rational supportable decisions
  - Decisions must be made rapidly

CRITICAL SUCCESS FACTORS (cont'd)

- Project Management
  - Empowered Project Management Team
  - Scope Control to limit impact of legacy systems and "additional requirements"
  - Implementation of a Well Managed Requirements Process (Policy and Procedure Managed by FA)
- Project Teams
  - Strong Contractor Team
  - Multi-disciplined
  - Strong Partnership between the FA and Systems Command
- Change Management
  - Communications Planning and Execution at all Levels
  - Training/Education at all Levels on Transformed business processes
  - Coordinated changes to Policies, Manpower, Organizations

BACKUP SLIDES

6 June 2002

Acronyms

TCO	Tactical Combat Operations
IAS	Intelligence Analysis System
SDE	Shared Data Environment
GCCS	Global Command and Control System
ROLMS	Retail Ordnance Logistics Management System
GCSS	Global Combat Support System
GTN	Global Tracking Network
MAGTF II	Marine Air Ground Task Force System II
MDSS II	MAGTF Deployment Support System II
ATLASS II	Asset Tracking Logistics and Analysis Support System
WRS	War Reserve System
ACE	Aviation Combat Element
DSS	Distributed Standard System
FDP&E	Force Deployment Planning and Execution
OA	Operational Architecture
DMIR	Data Management and Interoperability Repository
TRANS	Transactional
TC-AIMS	Transportation Coordinators Automated Information Management System
FSSG	Force Service Support Group
CSSD	Combat Service Support Detachment
UOC	Unit Operations Center
EAI	Enterprise Application Interface
ETL	Extraction/Transformation/Loading
ICODES	Integrated Computerized Deployment System
AALPS	Automated Air Load Planning System
U/U	Using Unit
POC	Proof of Concept
SRAC	Systems Realignment and Categorization
SE	Supporting Establishment
MAGTF CE	MAGTF command Element
GCE	Ground Combat Element
CSSE	Combat Service Support Element
TMO	Traffic Management Office
MDL	MAGTF Data Library
ILC	Integrated Logistics Capability
DMI	Data Management and Interoperability
REF	Reference
OODA	Observe, Orient, Decide, Act

Capabilities Mapped to Legacy and Planned Systems

Capability Definitions

ID	Capability	Definition
D	**Distribution**	The activities associated with the movement of material from the supplier to the customer
DG	**Demand Generation**	The activities necessary to capture, format, and provide requirements to the organizations chartered to fulfill the need
DS	**Decision Support**	The ability to support the commander's decision making process by providing situational awareness, collaborative planning and forecasting tools in an operational environment
FD	**Force Deployment and Execution**	The ability to allow efficient and effective movement of forces from their origin to ports of embarkation and on to ports of debarkation and final destination. Support includes marshaling, staging, embarking, and deploying the command.
OM	**Order Management**	The ability to plan, direct, monitor, and control processes related to customer orders, manufacturing orders and purchase orders
PL	**Planning**	The process of setting goals for the organization and choosing various ways to use the organization's resources to achieve the goals. Applied in this context to the management of the supply chain.
PM	**Personnel Management**	The activities involved in managing and monitoring the actions, capabilities, location, and training of an organization's personnel
PP	**Purchasing/Procurement**	The ability to procure materials, supplies, and services
RM	**Resource Management**	The business functions of developing resource requirements, identifying sources of funding, determining cost, acquiring funds, distributing/controlling funds, tracking costs and obligations, cost capturing and reimbursement, and establishing management costs.
SF	**Service Fulfillment**	The ability to perform a service in support of a requirement
TR	**Technical Requirements**	System and Technical Architecture requirements to fulfill capabilities

Subcapability Definitions

Capability ID	Subcapability Name	Definition
D	**Warehousing**	The activities related to receiving, storing, and shipping materials to and from production and distribution locations
D	**Transportation**	and material) in the correct location at the proper time in order to start and maintain operations
D	**Inventory control**	The activities and techniques of maintaining the desired levels of items.
DG	**Demand Generation**	The ability of the customer to identify and request a need
DS	**Situational Awareness**	The ability to have as much knowledge as possible about the current state of the operational environment
DS	**Analysis**	The ability to separate any situation into its parts; with an examination of these parts to find out their nature, proportion, function, interrelationship
DS	**Planning**	The process of developing practical schemes for taking future actions
FD	**Deployment Planning**	Operational planning directed toward the movement of forces and sustainment resources from their original locations to a specific operational area for conducting the joint operations contemplated in a given plan. Encompasses all activities from origin or
FD	**Deployment Execution**	The activities involved in staging, embarking, moving, debarking and assembling forces(organizations of personnel and equipment with specific mission capabilities) into and out of a theater of operations in support of an operational

Subcapability Definitions

Capability ID	Subcapability Name	Subcapability Definition
OM	**Customer Order Management**	The activities associated with managing customer orders for products and services.
OM	**Order Promising**	Actions taken to confirm customer order and estimate time of delivery, and provide necessary status.
OM	**Order Entry**	Actions taken to enter customer demands into execution applications.
OM	**Order Routing**	Actions taken to route the customer order to the organization(s) responsible for fulfilling the demand.
OM	**Order Release**	Actions taken to release the completed order to the customer.
OM	**Customer Billing/Reconciliation**	Actions taken to bill the customer and reconcile customer account.
OM	**Customer Receipt/Acceptance**	Customer receipt and acceptance of order.
PL	**Planning**	The process of setting material and product goals for the Combat Service Support organization and choosing various methods to use the organizations resources to achieve the goals.
PL	**Forecasting**	The process of predicting dates and use of products/services so they can be purachased or stored in appropriate quantities in advance.
PL	**Demand Management**	The process of recognizing all demands for products and services to support fulfillment. This includes prioritization when supply is lacking.

Subcapability Definitions

Capability ID	Subcapability Name	Subcapability Definition
PP	**Procurement Planning**	The process of planning procurements
PP	**Purchasing**	The activities associated with fulfilling demands for supplies and services through purchase orders.
PP	**Receiving, Acceptance and Payment**	The activities associated with receiving, inspecting, accepting products or services acquired via purchase order, and payment.
RM	**Define and ID Resource Requirements**	The activities involved in developing resource requirements, identifying sources of funding, determining cost, acquiring funds, and distributing and controlling funds.
RM	**Tracking Resources**	The activities involved in tracking costs and obligations, cost capturing and reimbursement .
RM	**Resource Management Controls**	The activities involved with resource management controls including financial reporting.
RM	**Asset Management**	A total picture of an organizations assets and their statuses. It may point to other functions/capabilities.
SF	**Maintenance Management**	Actions taken to retain or restore material to serviceable condition
SF	**Health Services**	Actions taken to minimize the effects of wounds, injuries, and disease on unit effectiveness, readiness, and morale
SF	**Engineering**	Actions taken to enhance the force's momentum by physically shaping the battlespace to make the most efficient use of the space and time necessary to generate mass and speed while denying the enemy unencumbered maneuver. Tasks performed in the rear area that serve to sustain forward combat operations
SF	**Services**	Services are those activities that are necessary for the effective administration, management, and employment of military organizations.Postal, Disbursing, Exchange, etc
SF	**Project Call Handling**	
SF	**Fulfillment Management**	Workflow, routing, control, assignment, coordination, follow-through, and quality of service for deliver of service and materials

Technical Requirements

Capability ID	Subcapability Name	Subcapability Definition
TR	**Shared Data**	The activity and technical platform where information is made available to persons and applications authorized access. The data is independent of the application that created it and is provided in a coherent manner even though it may have originated in ph
TR	**AIT**	Equipment used to facilitate the collection of initial source data and identify material in the logistics pipeline
TR	**Internet Infrastructure**	An architecture, software, and equipment that maximizes the use of TCP/IP protocols as well as those protocols and software that use "World Wide Web" sanctioned standards such as HTML, HTTP, and XML
TR	**Information Assurance**	The activities taken to ensure that the appropriate levels of confidentiallity, integrity, and availability are applied to information systems
TR	**JTA/DII-COE**	DOD standards for technical and systems architectures, software, and hardware.

GCSS Portfolio Systems

USMC Systems
- **AIT Capability**
- **ATLASS II+**
  - **STRATIS**
- **MAGTF LOGAIS**
  - **MDSS II**
  - **TCAIMS**
  - **CAEMS**
  - **MAGTF II**
  - **SCM and ALPM**
  - **MDL**

Joint Systems
- AALPS/CALM
- AMS
- ICODES
- JFRG II
- TC AIMS II
- TMIP-M

USMC Systems
- **MCDSS**
- **MCREM**
- **MIT**
- **NEIMS**
- **Paperless Acquisition**
- **SDE**
- **SUL/RRTS**
- **TDMS**
- **WRS**

Manpower Portfolio
- **UD/MIPS/MCTFS**
- **TFDW/ODSE**
- **TFSMS**

Other Service Systems
- *CAIMS-OSE/ROLMS*
- *CAV II*
- *CMOS*
- *COMPASS CONTRACT*
- *DSS*
- *FAS*
- *MP&E*
- *NIMMS*
- *SCS*

New Initiatives
- Warfighter Portal
- Autonomic Logistics
- Decision Support Tools
- Combat/Service Engineering Tools

System Descriptions

System	Description	Notes
AIT	Automated Identification Technology	Includes AIT HW,
AMS	Automated Manifesting System	Joint System
ATLASS II+	Asset Tracking and Logistics and Supply System	ATLASS includes STRATIS (MOWASP replacement). Replace SASSY/ MIMMS
CAIMS-OSE/ROLMS	Conventional Ammunition Integrated Management System/Retail Ordnance Logistics Management System	Navy Owned
CAV II	Commercial Asset Visibility	Navy Owned
CMOS	Cargo Movement Operations System	Air Force
COMPASS CONTRACT	Computerized Provisioning Allowance and Supply System	Navy
FAS	Fuel tracking system	DLA
JFRG II	Joint Forces Requirement Generator	Joint System-- FDP&E - Planning
MAGTF LOGAIS Rollup	MDSS II, TCAIMS, MAGTF II, MDL, AALPS, ICODES	AALPS and ICODES are joint load planning tools.
MCDSS	Material Capability Decision Support System	Depot management and decision support
MCREM	Marine Corps Readiness Evaluation Model	Everything owned versus what's onhand and T/E fed from MCGERR
MIT	MPF Information Tool	MPF data access
DSS	Distributed Standard System	Asset visibility at depot-- Replaces MOWASP
MP&E	Maintenance Planning and Execution (Depot Level)	AF system

System Descriptions (cont.)

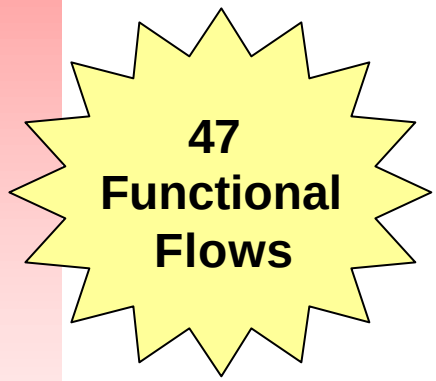
System	Description	Notes
NEIMS	NAL MEB Equipment Inventory Management System	Sufficient data may be in SASSY/ ATLASS. Owned by Norway
NIMMS	Naval Inventory Material Management System	Maintenance assets at depots (instead of DSSC) -- Navy Owned
Paperless Acquisition	Procurement/Contracting system	
SCM and ALPM	Sustainment Calculation Module, Aviation Load Planning Module	ALPM does bed down requirements and related, also aviation packages CISPs, etc.
SCS	Stock Control System	Air Force
SDE	Shared Data Environment	
SUL	Small Unit Logistics	
TC AIMS II	Transportation Coordinator's Automated Information for Movement System	Joint System
TDMS	Technical Data Management System	Source for technical reference data
TFDW/ ODSE	Total Force Data Warehouse/Operational Data Store Enterprise	Manpower system
TFSMS	Total Force Structure Management System	Source reference system
TMIP	Theater Medical Information Program	Joint System
UD/MIPS/ MCTFS	Manpower, Unit Diary, MC Total Force System	linked w/TFDW
WRS	War Reserve System	Sustainment and issue of war reserve materials

System Descriptions (cont.)

System	Description	Notes
Warfighter Portal	Web-based demand generation	GAP SYSTEM
Autonomic Logistics	AIS portion for AL	GAP SYSTEM
JTL/CSS toolkit	Decision Support Tools	GAP SYSTEM
Combat Service Engineering	Automated Tools to support engineers	GAP SYSTEM

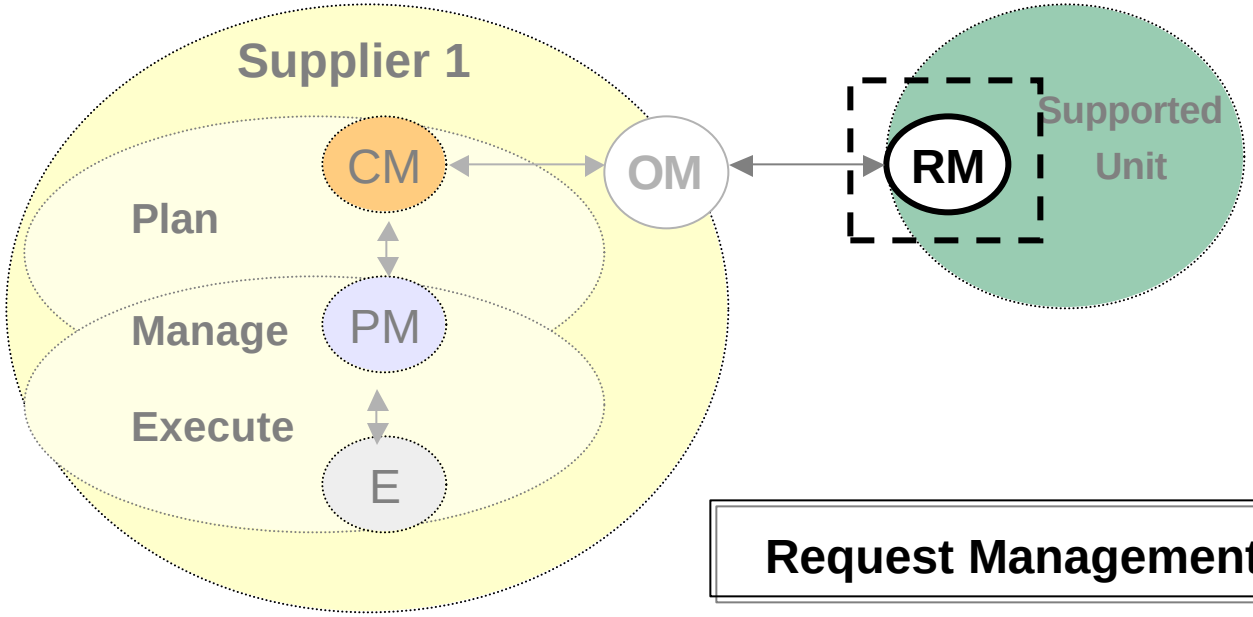
Major End-to-End Processes

- **Logistics Planning**
  - Logistics Chain Planning
  - Logistics Capacity Planning
  - Demand Planning

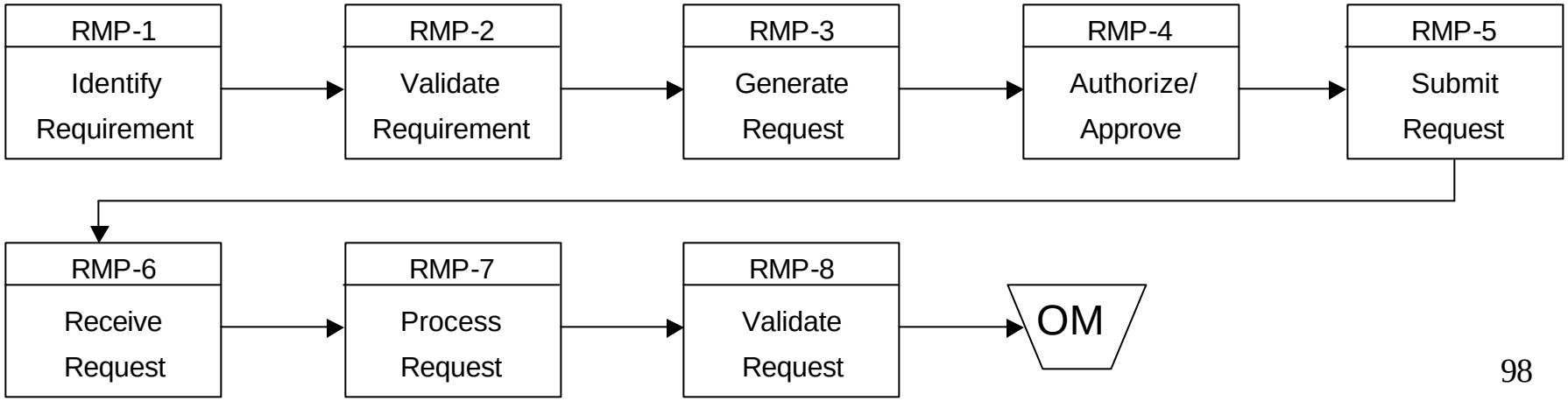


- **Logistics Production/Ops Mgt**
- **Logistics Execution**
  - Order Fulfillment for Products & Services
  - Reverse Logistics/Customer Service

Detailed Functional Flow (Example 1)

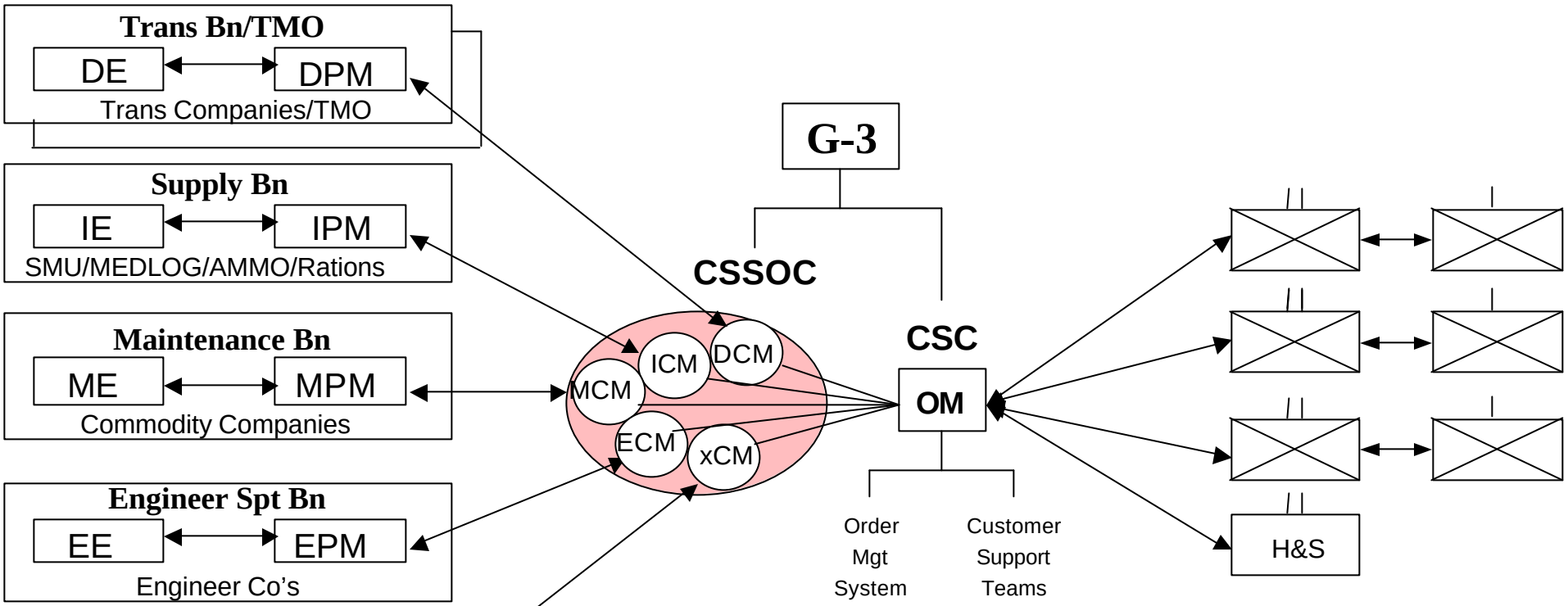


Request Management – Product (RMP)



Potential Organization and Roles

Supporting Unit – FSSG (Supplier 1)



Capacity Management Roles

Capacity Integration Manager – G-3

DCM – G-3 (Trans)/LMCC

ICM – G-3 (Supply)/SMU OIC

MCM – G-3 (Maint)/MOS

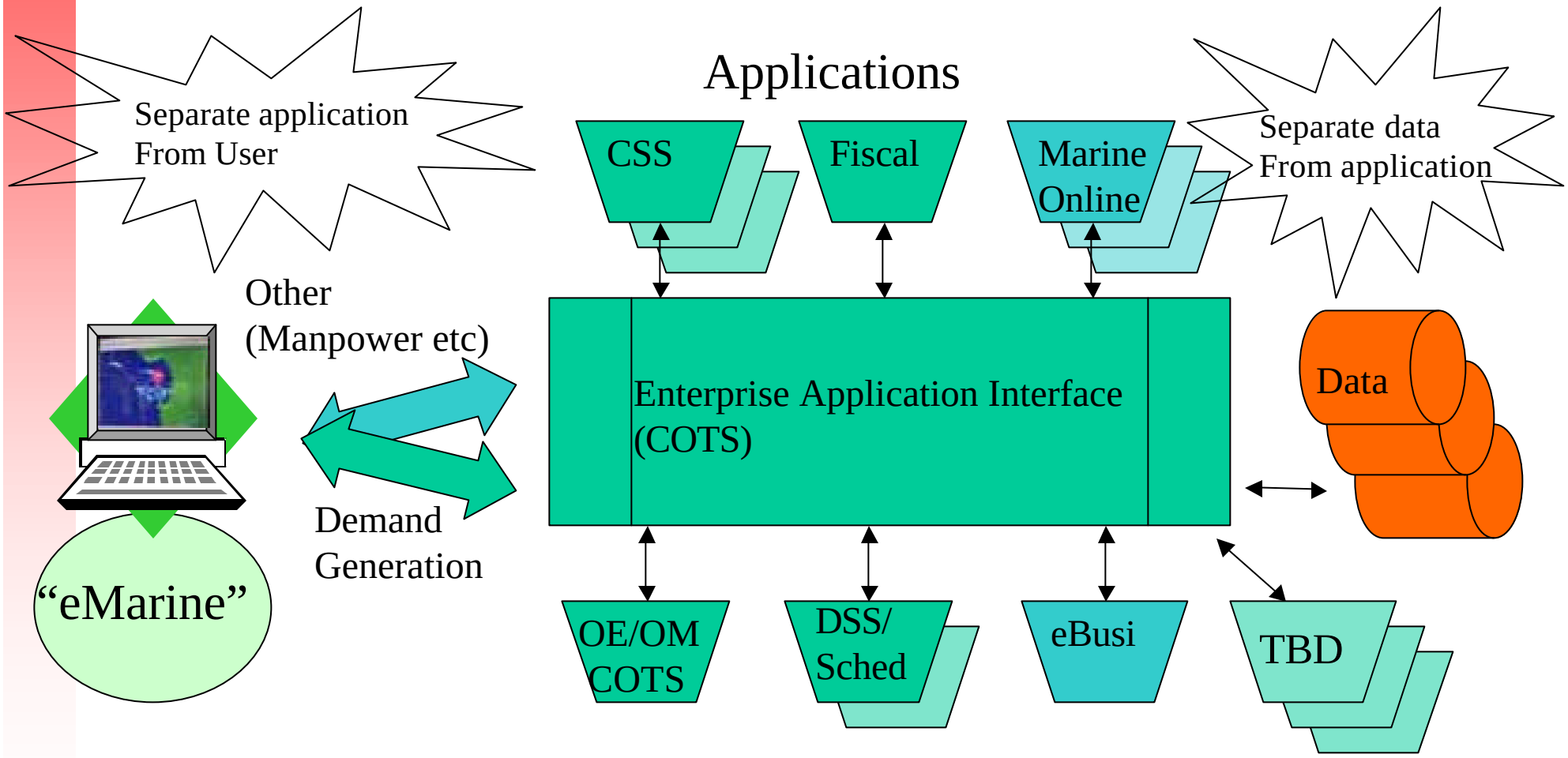
ECM – G-3 (Engineer)/Bn S-3

Customer Role

RM – Battalion S-4 (or as designated by the Commander)

FIELDING

FY 04-06



Reengineer Logistics Information Technology

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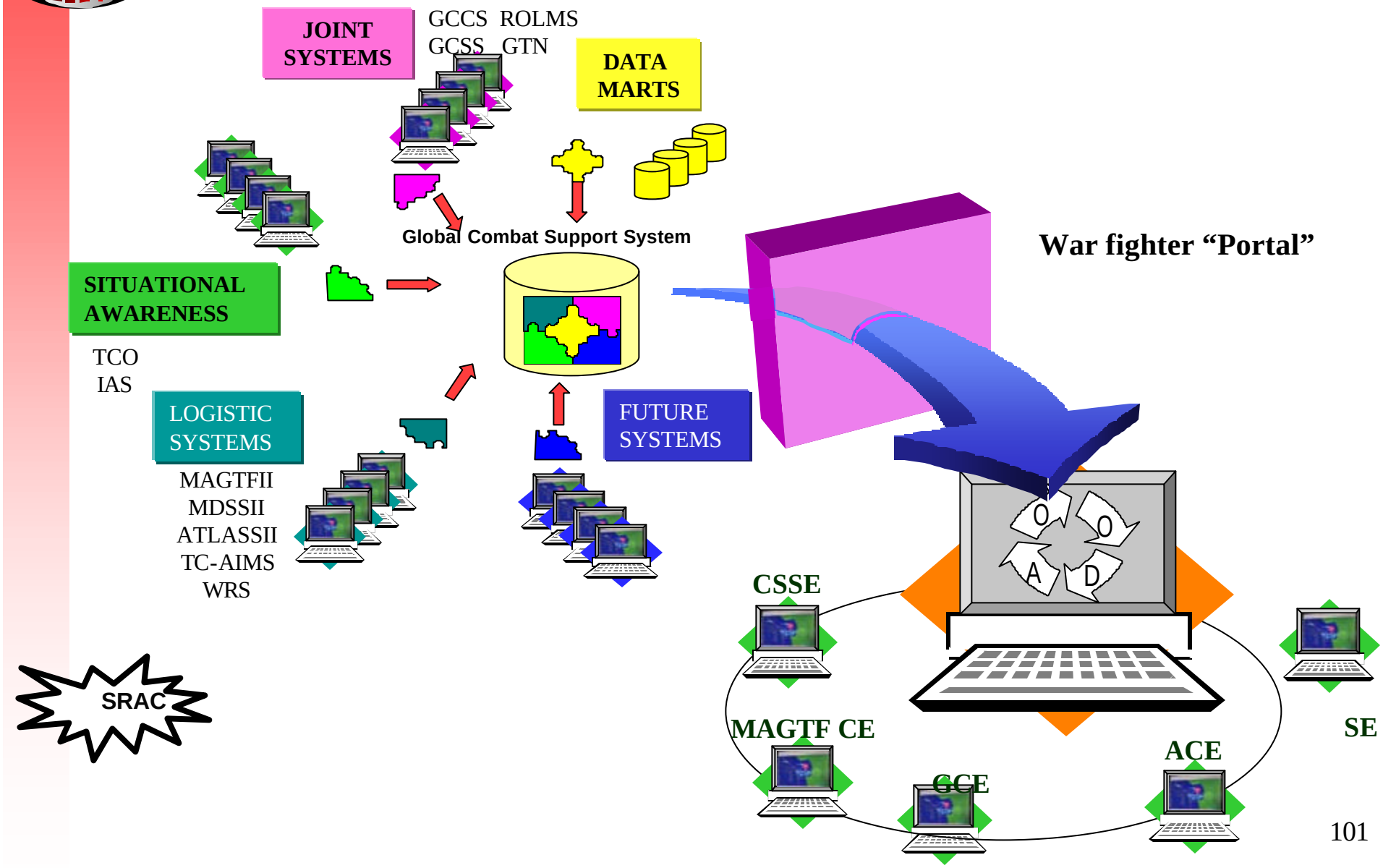
IT War fighter Portal



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What is EAP?

- The process of defining **architectures** for the use of information in support of the business, and the **plan** for implementing those architectures.
  - **Architectures**: The blueprints that define and describe the business, data, applications, and technology needed to support the business.
  - **Plan**: When the architectures will be implemented.

Intent of ILC OA

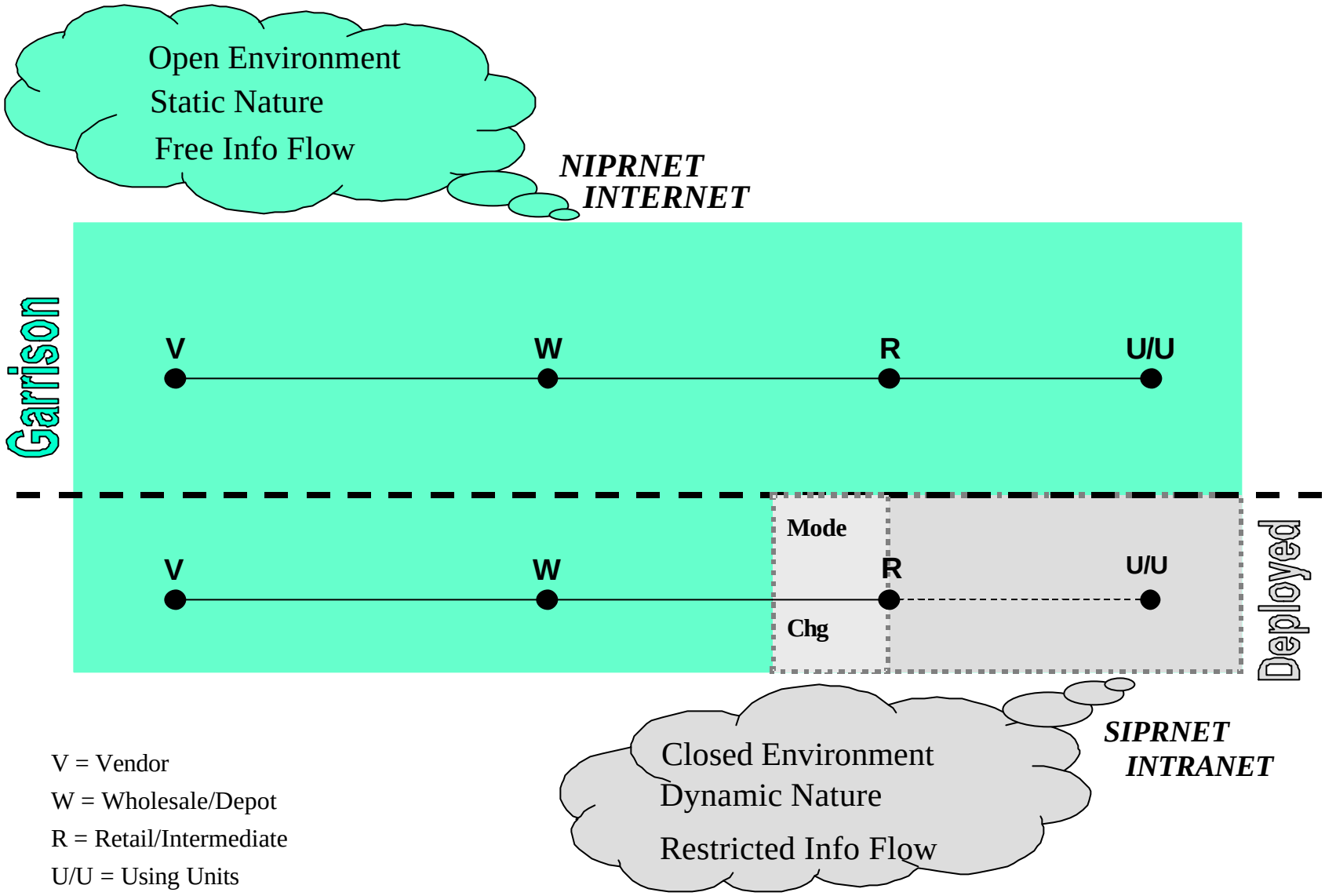
To understand "future state" Marine Corps logistics by defining logistics processes and information requirements considering:

- Fundamental ILC changes
  - "Logistics Chain Management" approach utilizing best practices where they make sense
  - Separating using units from technical "back office" applications
  - Optimize processes for deployed environment, use in garrison
- Approved ILC recommendations

OA Findings

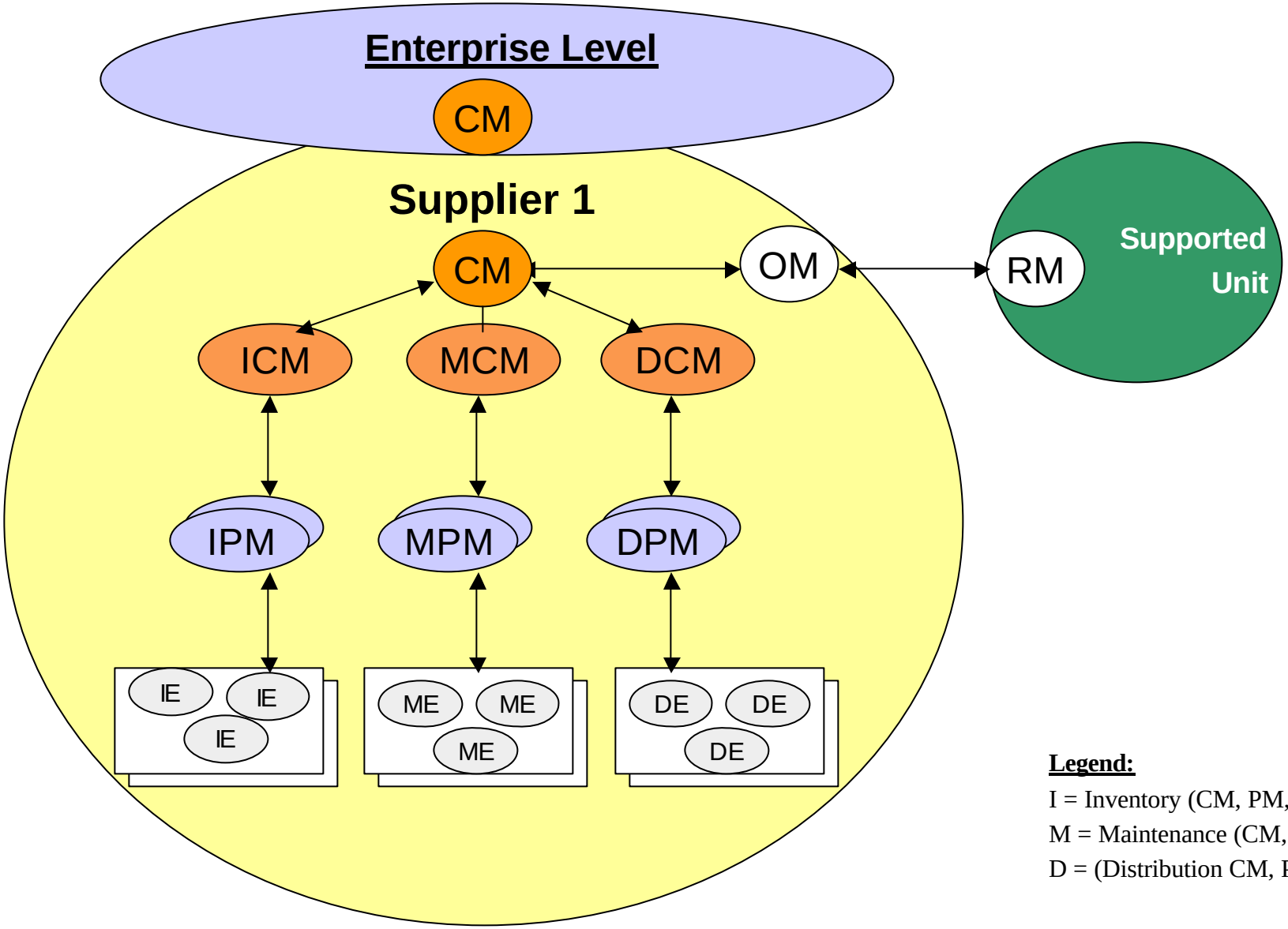
- Developed processes neutral to current doctrine and organizations
- Used C4ISR principles to design an OA that enabled the processes
- Based upon accepted Supply Chain best practices - SCOR
- Is reverse engineered to accommodate best practices and organization around the end to end processes
- The process used for the development of the OA avoids many of the pitfalls outlined in “Troubled and Failed ERP/SCM/e-Commerce Implementations”

Operational Context



V = Vendor
W = Wholesale/Depot
R = Retail/Intermediate
U/U = Using Units

Mid-Level Role Diagram



Legend:

I = Inventory (CM, PM, E)

M = Maintenance (CM, PM, E)

D = (Distribution CM, PM, E)